

SEQUENCE SEARCH, CLAIM 1

=&gt; fil reg; d que 14; d que 15; d que 16

FILE 'REGISTRY' ENTERED AT 13:29:15 ON 16 FEB 2007

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STRUCTURE FILE UPDATES: 15 FEB 2007 HIGHEST RN 921436-24-0

DICTIONARY FILE UPDATES: 15 FEB 2007 HIGHEST RN 921436-24-0

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experimental property data in the original document. For information  
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<http://www.cas.org/ONLINE/UG/regprops.html>

L4 350 SEA FILE=REGISTRY ABB=ON .{0,6}C.{5,6}C.{4}[EQ'GLA']CC.{3,4}C.  
{3,6}C.{0,9}/SQSP *comprising*

L5 0 SEA FILE=REGISTRY ABB=ON ^C.{5,6}C.{4}[EQ'GLA']CCSDNC.{3,6}C.{  
0,9}/SQSP = Xaa1 is des-Xaa1 and Xaa5 is Ser-Asp-Asn

L6 60 SEA FILE=REGISTRY ABB=ON ^.{0,6}C.{5,6}C.{4}[EQ'GLA']CC.{3,4}C.  
. {3,6}C.{0,9}^/SQSP *consisting*

## INVENTOR SEARCH

=> fil capl; d que l1  
 FILE 'CAPLUS' ENTERED AT 13:29:33 ON 16 FEB 2007  
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FILE COVERS 1907 - 16 Feb 2007 VOL 146 ISS 9  
 FILE LAST UPDATED: 15 Feb 2007 (20070215/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>  
 'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L1 1 SEA FILE=CAPLUS ABB=ON US2003-647519/AP

=> s l1 or (l1 and l4)  
 130 L4  
 L16 1 L1 OR (L1 AND L4)

=> d ibib ed abs hitseq l16

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1999:404858 CAPLUS Full-text  
 DOCUMENT NUMBER: 131:54035  
 TITLE: Gamma-conopeptide agonists for neuronal pacemaker calcium channels  
 INVENTOR(S): Fainzilber, Michael; Kits, Karel S.; Burlingame, Alma L.; Olivera, Baldomero M.; Walker, Craig; Walkins, Maren; Shetty, Reshma; Cruz, Lourdes J.; Imperial, Julita; Colledge, Clark  
 PATENT ASSIGNEE(S): University of Utah Research Foundation, USA; Vrije Universiteit; The Regents of the University of California  
 SOURCE: PCT Int. Appl., 59 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9930732	A1	19990624	WO 1998-US26792	19981216

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
 DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN,  
 MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
 TR, TT, UA, UG, UZ, VN, YU, ZW  
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6624288	B1	20030923	US 1998-210952	19981215
CA 2314686	A1	19990624	CA 1998-2314686	19981216
AU 9920001	A	19990705	AU 1999-20001	19981216
EP 1039923	A1	20001004	EP 1998-964743	19981216

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, FI

JP 2002508945	T	20020326	JP 2000-538711	19981216
US 2006223984	A1	20061005	US 2003-647519	20030826 <--

PRIORITY APPLN. INFO.:

US 1997-69706P	P	19971216
US 1998-210952	A1	19981215
WO 1998-US26792	W	19981216

ED Entered STN: 01 Jul 1999

AB This invention relates to relatively short peptides about 25-40 residues in length, which are naturally available in minute amts. in the venom of the cone snails or analogs to the naturally available peptides, and which include three cyclizing disulfide linkages and one or more  $\gamma$ -carboxyglutamate residues.

More specifically, the present invention is directed to  $\gamma$ -conopeptides having the general formula: Xaa1-Cys-Xaa2-Cys-Xaa3-Xaa4-Cys-Cys-Xaa5-Cys-Xaa6-Cys-Xaa7 (SEQ ID NO:1), as described herein; or having the general formula: Xaa1-Cys-Xaa2-Cys-Xaa3-Xaa4-Cys-Cys-Xaa5-Xaa6-Cys-Xaa7-Cys-Xaa8 (SEQ ID NO:2), as defined herein; or having the general formula: Xaa1-Cys-Xaa2-Cys-Xaa3-Xaa4-Xaa5-Cys-Cys-Ser-Asn-Ser-Cys-Asp-Xaa6-Cys-Xaa7 (SEQ ID NO:3), as described herein; or having the general formula: Xaa1-Cys-Xaa2-Cys-Xaa3-Xaa4-Xaa5-Cys-Cys-Ser-Asn-Ser-Cys-Asp-Xaa6-Cys-Xaa7 (SEQ ID NO:4), as described herein; or having the general formula: Xaa1-Xaa2-Cys-Xaa3-Xaa4-Phe-Xaa5-Cys-Thr-Xaa6-Ser-Xaa7-Cys-Cys-Ser-Asn-Ser-Cys-A sp-Gln-Thr-Tyr-Cys-Xaa8-Leu-Xaa9 (SEQ ID NO:5), as described herein. The invention further relates to specific  $\gamma$ -conopeptides, specific pro- $\gamma$ -conopeptides and nucleic acids encoding the pro- $\gamma$ -conopeptides. The invention also includes pharmaceutically acceptable salts of the conopeptides. These conopeptides are useful as agonists of neuronal pacemaker calcium channels.

IT 228103-82-0P 228104-01-6P 228104-03-8P  
 228104-05-0P 228104-09-4P 228104-11-8P  
 228104-16-3P 228111-13-5P 228111-22-6P  
 228111-43-1P

RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)

(amino acid sequence;  $\gamma$ -conopeptide agonists for neuronal pacemaker calcium channels)

RN 228103-82-0 CAPLUS

CN  $\gamma$ -Conotoxin Tx6.9 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLLSIQAL NQEKHQRAKI NLLSKRKPPA ERWWRWGGCM  
 51 AWFGLC SRDS ECCSNSCDVT RCELMFPFPD W

RN 228104-01-6 CAPLUS

CN  $\gamma$ -Conotoxin J010 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAM FQGDGEKSRK AEINFSETRK LARNKQKRCK  
51 TYSKYCEADS ECCTEQCVRS YCTLFG

RN 228104-03-8 CAPLUS

CN  $\gamma$ -Conotoxin Tx6.6 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL IQDQRQKAKI NLFSKRQAYA RDWWDDGCSV  
51 WGPCTVNAEC CSGDCHETCI FGWEV

RN 228104-05-0 CAPLUS

CN  $\gamma$ -Conotoxin Tx6.5 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL VERAGENHSK ENINFLKLRK RAADRGMWGE  
51 CKDGLTTCLA PSECCSEDCE GSCTMW

RN 228104-09-4 CAPLUS

CN  $\gamma$ -Conotoxin Mr6.1 (Conus marmoreus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLV AAVLLSTQAL NQEKRPKEMI NFLSKGKTNA ERRNGQCEDV  
51 WMPCTSNWEC CSLDCEMYCT QIG

RN 228104-11-8 CAPLUS

CN  $\gamma$ -Conotoxin Mr6.2 (Conus marmoreus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLIPTQAL FQGDDGKSQK AEIKSFETRK LARNKQVRCG  
51 GWSTYCEVDE ECCSESCVRS YCTLFG

RN 228104-16-3 CAPLUS

CN  $\gamma$ -Conotoxin Tx6.1 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLV AAVLMSTQAV LQEKRPKEKI KLLSKRKTDK EKQQKRLCPD  
51 YTEPCSHAHE CCSWNCYNHG CTG

RN 228111-13-5 CAPLUS

CN  $\gamma$ -Conotoxin Tx6.4 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 ERAKINLLPK RKPPAERWLE CSVWFSHCTK DSECCSNSCD QTYCTLMPD  
51 W



RN 228111-22-6 CAPLUS

CN  $\gamma$ -Conotoxin Gm6.7 (Conus gloriamaris precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 LTILLLVAAV LMSTQALIQG GGDKRQKANI NFLSRWDREC RAWYAPCSPG  
51 AQCCSLLMCS KATSRCILAL

RN 228111-43-1 CAPLUS

CN  $\gamma$ -Conotoxin Mr6.3 (Conus marmoreus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLLV AAVLMTTQAL YQEKRRKEMI NFLSKGKINA ERRNGGCKAT  
51 WMSCSSGWEC CSMSCDMYCG

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

## SEARCH FOR REFERENCES TO HITS FROM SEQUENCE SEARCH

=&gt; fil capl; d que l14; d que l7

FILE 'CAPLUS' ENTERED AT 13:30:22 ON 16 FEB 2007

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FILE COVERS 1907 - 16 Feb 2007 VOL 146 ISS 9

FILE LAST UPDATED: 15 Feb 2007 (20070215/ED)

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<http://www.cas.org/infopolicy.html>

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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{3,6}C.{0,9}/SQSP  
L12 1728 SEA FILE=CAPLUS ABB=ON CONOPEPTIDE#/OBI OR CONOTOXIN#/OBI OR  
CONUS/CW  
L13 130 SEA FILE=CAPLUS ABB=ON L4  
L14 33 SEA FILE=CAPLUS ABB=ON L12 AND L13

L6 60 SEA FILE=REGISTRY ABB=ON ^.{0,6}C.{5,6}C.{4}[EQ'GLA']CC.{3,4}C.  
. {3,6}C.{0,9}^/SQSP  
L7 20 SEA FILE=CAPLUS ABB=ON L6

=&gt; s l7,l14 not l16

L17 36 (L7 OR L14) NOT L16

=&gt; d ibib ed abs hitseq 1-36; fil hom

L17 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:15118 CAPLUS Full-textTITLE: I-conotoxins in vermivorous species of the  
West Atlantic: Peptide srlla from Conus spuriusAUTHOR(S): Aguilar, Manuel B.; Lopez-Vera, Estuardo; Heimer de la  
Cotera, Edgar P.; Falcon, Andres; Olivera, Baldomero  
M.; Maillo, MariaCORPORATE SOURCE: Laboratorio de Neurofarmacologia Marina, Departamento  
de Neurobiologia Celular y Molecular, Instituto de  
Neurobiologia, Universidad Nacional Autonoma de  
Mexico, Queretaro, 76230, Mex.

SOURCE: Peptides (New York, NY, United States) (2007), 28(1),

18-23  
CODEN: PPTDD5; ISSN: 0196-9781  
Elsevier Inc.

PUBLISHER:  
DOCUMENT TYPE: Journal  
LANGUAGE: English

ED Entered STN: 05 Jan 2007

AB Peptide sr11a was purified from the venom of *Conus spurius*, a vermivorous cone snail collected in the Yucatan Channel, in the Western Atlantic. Its primary structure was determined by automatic Edman degradation after reduction and alkylation. Its mol. mass, as determined by MALDI-TOF mass spectrometry (average mass 3650.77 Da), confirmed the chemical data (calculated average mass, 3651.13 Da). The sequence of peptide sr11a

(CRTEGMSCYNQCCWRSCCRGECEAPCRFG P&;  $\gamma$ , gamma-carboxy-Glu; &, amidated C-terminus) shows eight Cys residues arranged in the pattern that defines the I-superfamily of conotoxins. Peptide sr11a contains two gamma-carboxy-Glu residues, a post-translational modification that has been found in other I-conotoxins from species that live in the West Pacific: r11e from the piscivorous *Conus radiatus*, and  $\kappa$ -BtX from the vermivorous *Conus betulinus*. Peptide sr11a is the eighth I-conotoxin isolated from a *Conus* venom and the first I-conotoxin from a species from the Western Atlantic. Peptide sr11a produced stiffening of body, limbs and tail when injected intracranially into mice.

IT 920491-68-5P

RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation); PRP (Properties)

(amino acid sequence; peptide sr11a from *Conus spurius*, first I-conotoxin from vermivorous species of West Atlantic)

RN 920491-68-5 CAPLUS

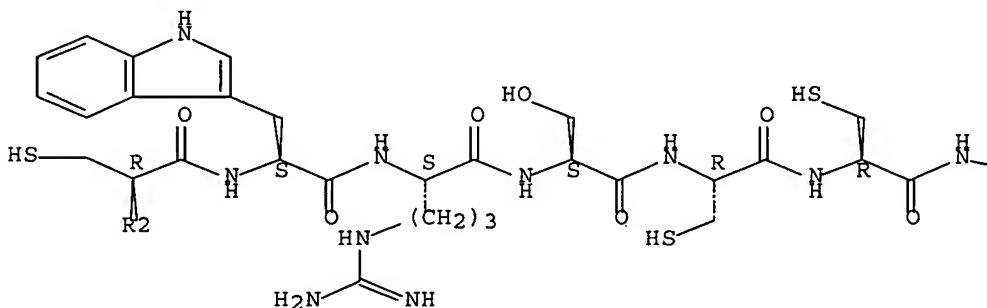
CN INDEX NAME NOT YET ASSIGNED

NTE modified

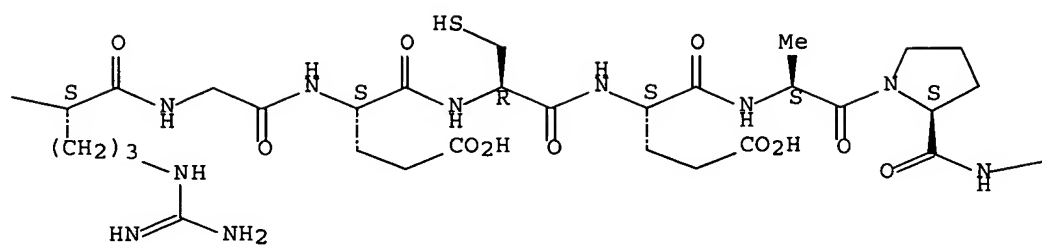
SEQ 1 CRTEGMSCTX NQCCWRSCC RGECEAPCRF GP

Absolute stereochemistry.

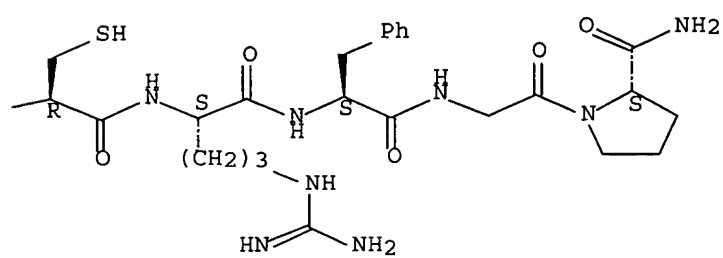
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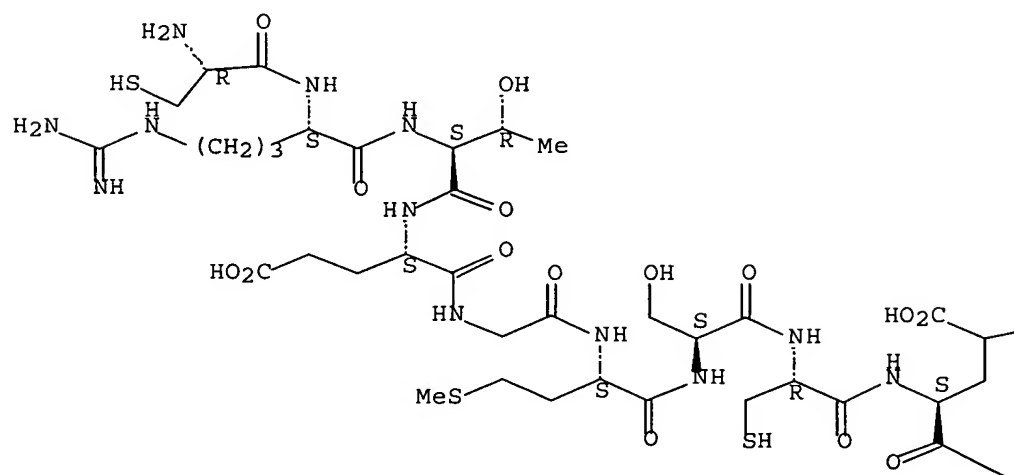
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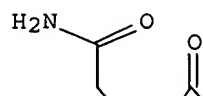
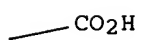


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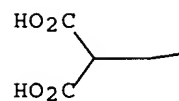


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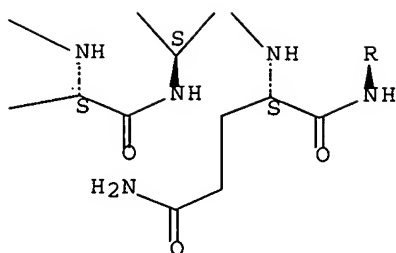


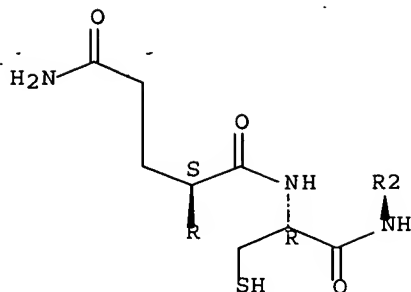


PAGE 3-A



PAGE 3-B





REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1240990 CAPLUS Full-text

DOCUMENT NUMBER: 146:156923

TITLE: Sequence diversity of O-superfamily conopeptides from *Conus marmoreus* native to Hainan

AUTHOR(S): Luo, Sulan; Zhangsun, Dongting; Lin, Qiujin; Xie, Lei; Wu, Yong; Zhu, Xiaopeng

CORPORATE SOURCE: Key Laboratory for Tropical Biology Resources, Ministry of Education, Ocean College, Center for Experimental Biotechnology, Hainan University, Hainan, 570228, Peop. Rep. China

SOURCE: Peptides (New York, NY, United States) (2006), 27(12), 3058-3068

CODEN: PPTDD5; ISSN: 0196-9781

PUBLISHER: Elsevier Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 28 Nov 2006

AB The full-length cDNAs of six new O-superfamily conotoxins (CTX) were cloned and sequenced from *Conus marmoreus* native to Hainan in China South Sea using RT-PCR and 3'-RACE. Six novel conotoxin precursors encoded by these cDNAs consist of three typical regions of signal, pro-peptide and mature peptide. All the six toxin regions share a common O-superfamily cysteine pattern (C-C-CC-C-C, with three disulfide bridges). The predicted precursors are composed of 73-88 amino acids, and the predicted mature peptides consist of 26-34 amino acids. Phylogenetic anal. of new conotoxins from *C. marmoreus* from the present study and published homolog T-superfamily sequences from other *Conus* species was performed systematically. Patterns of sequence divergence for three regions of signal, pro-region and mature peptides, as well as Cys codon usage define the major O-superfamily branches and suggest how these sep. branches arose. Percent identities of the amino acid sequences of the signal region exhibited high conservation, whereas the sequences of the mature peptides ranged from almost identical to highly divergent between inter- and intra-species. Notably, the diversity of the pro-region was also high with intermediate divergence between that observed in signal and toxin regions. Amino acid sequences and their mode of action (target) of previously identified conotoxins from molluscivorous *C. marmoreus* for the known conotoxins classes are discussed in detail. The data presented are new and should pave the way for chemical synthesis of these unique conotoxins for to allow determination of the mol. targets of these peptides, and also to provide clues for a better understanding of the phylogeny of these peptides.

IT 917535-43-4, GenBank AAZ83760.  
 RL: BSW (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (amino acid sequence; sequence diversity of O-superfamily  
 conopeptides from Conus marmoreus native to Hainan)  
 RN 917535-43-4 CAPLUS  
 CN GenBank AAZ83760 (CA INDEX NAME)

SEQ 1 MQKLTIALLV AAVLLSTQAL NQEKRPKEMI NVLSKGKTNA ERRKRQCEDV  
 51 WMPCTSNWEC CSLDCEMYCT QIG

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 3 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:1206138 CAPLUS Full-text  
 DOCUMENT NUMBER: 145:501016  
 TITLE: Conus californicus neurotoxins having potential ion  
 channel blocker activity  
 INVENTOR(S): Gilly, William F.; Neofitovic-Lebaric, Zora  
 PATENT ASSIGNEE(S): The Board of Trustees of the Leland Stanford Junior  
 University, USA  
 SOURCE: PCT Int. Appl., 34pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006122205	A2	20061116	WO 2006-US18132	20060510
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 2006264374	A1	20061123	US 2006-382679	20060510
PRIORITY APPLN. INFO.:			US 2005-679876P	P 20050510
ED Entered STN: 17 Nov 2006				
AB Novel conotoxin polypeptide and polynucleotide sequences are provided. Conotoxins are novel polypeptides that have potent pharmacol. activity, particularly in the blocking of voltage gated and chemical gated ion channels, e.g. voltage gated sodium channels. The polypeptides find use as therapeutic and research agents. The nucleic acid compns. find use in identifying homologous or related genes; for production of the encoded peptide; in producing compns. that modulate the expression or function of its encoded protein; for therapy; mapping functional regions of the protein; and in studying associated physiol. pathways.				
IT 914813-58-4, Conotoxin (Conus californicus venom)				

914813-59-5, Conotoxin (Conus californicus venom)

914813-60-8, Conotoxin (Conus californicus venom)

914813-61-9, Conotoxin (Conus californicus venom)

914813-62-0, Conotoxin (Conus californicus venom)

914813-63-1, Conotoxin (Conus californicus venom)

RL: BSU (Biological study, unclassified); PRP (Properties); THU

(Therapeutic use); BIOL (Biological study); USES (Uses)

(amino acid sequences; Conus californicus neurotoxins having potential  
ion channel blocker activity)

RN 914813-58-4 CAPLUS

CN Conotoxin (Conus californicus venom) (9CI) (CA INDEX NAME)

SEQ 1 DNKRGATPWQ NSLKARGVCS TPEGSCIHNG CCQNAPQCCH PSGCNWANVC  
51 PGFLWDDKN

RN 914813-59-5 CAPLUS

CN Conotoxin (Conus californicus venom) (9CI) (CA INDEX NAME)

SEQ 1 DNKRGATPWQ NSLKARGVCS TPEGSCIHNG CMCQNAPQCC HPSGCNWANVC  
51 CPGFLWDDKN

RN 914813-60-8 CAPLUS

CN Conotoxin (Conus californicus venom) (9CI) (CA INDEX NAME)

SEQ 1 DNKRGATPWQ NSLKARGVCS TPEGSCIHNG CCQNAPQCCH PSGCNWANVC  
51 PGYLWDDKN

RN 914813-61-9 CAPLUS

CN Conotoxin (Conus californicus venom) (9CI) (CA INDEX NAME)

SEQ 1 DNKRGATPWQ NSLKARGVCS TPEGSCIHNG CCQNAPQCCH ASGCNWANVC  
51 PGFLWDDKN

RN 914813-62-0 CAPLUS

CN Conotoxin (Conus californicus venom) (9CI) (CA INDEX NAME)

SEQ 1 DNKRGATPWQ NSLKARGVCS TPEGSCIHNG CCHNAPQCCH PSGCNWANVC  
51 PGFLWDDKN

RN 914813-63-1 CAPLUS

CN Conotoxin (Conus californicus venom) (9CI) (CA INDEX NAME)

SEQ 1 DNKRGATPWQ NSLKARGVCS TPEGSCIHNG CCQNAPQCCH PSGCNWVNVV  
51 PGFLWDDKN



L17 ANSWER 4 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:1189569 CAPLUS Full-text

DOCUMENT NUMBER: 146:116267

TITLE: Spider toxins activate the capsaicin receptor to produce inflammatory pain

AUTHOR(S): Siemens, Jan; Zhou, Sharleen; Piskorowski, Rebecca; Nikai, Tetsuro; Lumpkin, Ellen A.; Basbaum, Allan I.; King, David; Julius, David

CORPORATE SOURCE: Department of Cellular and Molecular Pharmacology, University of California-San Francisco, San Francisco, CA, 94143-2140, USA

SOURCE: Nature (London, United Kingdom) (2006), 444(7116), 208-212

CODEN: NATUAS; ISSN: 0028-0836

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 13 Nov 2006

AB Bites and stings from venomous creatures can produce pain and inflammation as part of their defensive strategy to ward off predators or competitors. Mols. accounting for lethal effects of venoms were extensively characterized, but less is known about the mechanisms by which they produce pain. Venoms from spiders, snakes, cone snails or scorpions contain a pharmacopoeia of peptide toxins that block receptor or channel activation as a means of producing shock, paralysis or death. We examined whether these venoms also contain toxins that activate (rather than inhibit) excitatory channels on somatosensory neurons to produce a noxious sensation in mammals. Here we show that venom from a tarantula that is native to the West Indies contains 3 inhibitor cysteine knot (ICK) peptides that target the capsaicin receptor (TRPV1), an excitatory channel expressed by sensory neurons of the pain pathway. In contrast with the predominant role of ICK toxins as channel inhibitors, these previously unknown 'vanillotoxins' function as TRPV1 agonists, providing new tools for understanding mechanisms of TRP channel gating. Some vanillotoxins also inhibit voltage-gated potassium channels, supporting potential similarities between TRP and voltage-gated channel structures. TRP channels can now be included among the targets of peptide toxins, showing that animals, like plants (for example, chilli peppers), avert predators by activating TRP channels on sensory nerve fibers to elicit pain and inflammation.

IT 918550-58-0

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
 (spider toxins activate capsaicin receptor to produce inflammatory pain)

RN 918550-58-0 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

NTE modified

SEQ 1 ECRWYLGCK EDSECCEHLQ CHSYWEWCLW DGSF

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 5 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:672016 CAPLUS Full-text  
 DOCUMENT NUMBER: 145:449862  
 TITLE: Gene organization and complete sequence of the  
 Hyphantria cunea nucleopolyhedrovirus genome  
 AUTHOR(S): Ikeda, Motoko; Shikata, Masamitsu; Shirata, Noriko;  
 Chaeychomsri, Sudawan; Kobayashi, Michihiro  
 CORPORATE SOURCE: Laboratory of Sericulture and Entomoresources,  
 Graduate School of Bioagricultural Sciences, Nagoya  
 University, Chikusa, Nagoya, 464-8601, Japan  
 SOURCE: Journal of General Virology (2006), 87(9), 2549-2562  
 CODEN: JGVIAY; ISSN: 0022-1317  
 PUBLISHER: Society for General Microbiology  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

ED Entered STN: 28 Aug 2006

AB The whole-genome sequence of the Hyphantria cunea nucleopolyhedrovirus (HycuNPV) was analyzed. The entire nucleotide sequence of the HycuNPV genome was 132 959 bp long, with a G + C content of 45.1 mol%. A total of 148 open reading frames (ORFs) consisting of more than 50 aa were encoded by the genome. HycuNPV shares more than 122 ORFs with other lepidopteran group I NPVs, including Autographa californica MNPV, Bombyx mori NPV, Choristoneura fumiferana MNPV (CfMNPV), Choristoneura fumiferana defective NPV, Epiphyas postvittana MNPV and Orgyia pseudotsugata MNPV (OpMNPV). Six ORFs are identified as being unique to HycuNPV. Most of the HycuNPV ORFs showed higher similarity to CfMNPV and OpMNPV ORFs than to those of the other group I NPVs. HycuNPV encodes two conotoxin-like homologues (ct/s), which are observed only in OpMNPV in group I NPVs. HycuNPV encodes three inhibitors of apoptosis (iaps), hycu-iap-1, hycu-iap-2 and hycu-iap-3, a feature that it shares only with CfMNPV. In addition, six homologous regions (hrs) are identified in the HycuNPV genome. These hrs are located in regions similar to those of the OpMNPV hrs, but different from most of the CfMNPV hrs. Based on the close phylogenetic relationship and conservation of group I NPV-specific genes, such as gp64, ie-2 and ptp-1, it is concluded that HycuNPV belongs to the group I NPVs and is most similar to CfMNPV or OpMNPV.

IT 912995-25-6 912995-45-0

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)

(amino acid sequence; gene organization and complete sequence of the  
 Hyphantria cunea nucleopolyhedrovirus genome)

RN 912995-25-6 CAPLUS

CN Protein (Hyphantria cunea nucleopolyhedrovirus gene ctl2) (9CI) (CA INDEX  
 NAME)

SEQ 1 MIKFTTIFLI AAVAVTLAQ YVLACTETGK NCKYSYECCS GACSAAFGFC  
 51 LHR

RN 912995-45-0 CAPLUS

CN Protein (Hyphantria cunea nucleopolyhedrovirus gene ctl) (9CI) (CA INDEX  
 NAME)

SEQ 1 MQIKSMMLAV VLFVALNAQH VLTACAETGA VCVHDDECCS GACSPVFNYC  
 51 LPQ

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 6 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:671373 CAPLUS Full-text  
 DOCUMENT NUMBER: 145:370825  
 TITLE: Protein and cDNA sequences of O-superfamily  
 conotoxins from Conus, and their uses as  
 analgesics and pesticides  
 INVENTOR(S): Luo, Sulan; Zhangsun, Dongting; Zhang, Ben; Lin,  
 Qiujin  
 PATENT ASSIGNEE(S): Hainan University, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 38 pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1796412	A	20060705	CN 2004-10103561	20041230
PRIORITY APPLN. INFO.:			CN 2004-10103561	20041230

ED Entered STN: 12 Jul 2006

AB The invention provides the amino acid sequence and the coding polynucleotide sequence of O-superfamily conotoxins (O-CTX) isolated from different species of Conus. The invention also provides expression vectors encoding O-CTX and transgenic host cells for expressing O-CTX. The inventive O-CTX can be used as candidate or precursor of analgesic pharmaceutical composition and be used to prepare pesticide composition

IT 910666-35-2P 910666-45-4P 910666-46-5P  
 910666-47-6P 910666-48-7P 910666-49-8P  
 910666-50-1P 910666-51-2P 910666-52-3P  
 910666-54-5P 910666-55-6P 910666-62-5P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);  
 PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP  
 (Preparation); USES (Uses)  
 (amino acid sequence; protein and cDNA sequences of O-superfamily  
 conotoxins from Conus, and their uses as analgesics and  
 pesticides)

RN 910666-35-2 CAPLUS

CN Conotoxin TeAr94 (Conus textile precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-45-4 CAPLUS

CN Conotoxin TeA52 (Conus textile precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-46-5 CAPLUS

CN Conotoxin TeA53 (Conus textile precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-47-6 CAPLUS

CN Conotoxin BeB54 (Conus betulinus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-48-7 CAPLUS

CN Conotoxin LiC53 (Conus lividus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-49-8 CAPLUS  
 CN Conotoxin LdL51 (Conus litteratus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-50-1 CAPLUS  
 CN Conotoxin VeG51 (Conus vexillum precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-51-2 CAPLUS  
 CN Conotoxin VeG52 (Conus vexillum precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-52-3 CAPLUS  
 CN Conotoxin MaI51 (Conus marmoreus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-54-5 CAPLUS  
 CN Conotoxin MgJr112 (Conus magus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-55-6 CAPLUS  
 CN Conotoxin ViKr111 (Conus virgo precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 910666-62-5 CAPLUS  
 CN Conotoxin LeDr191 (Conus litteratus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

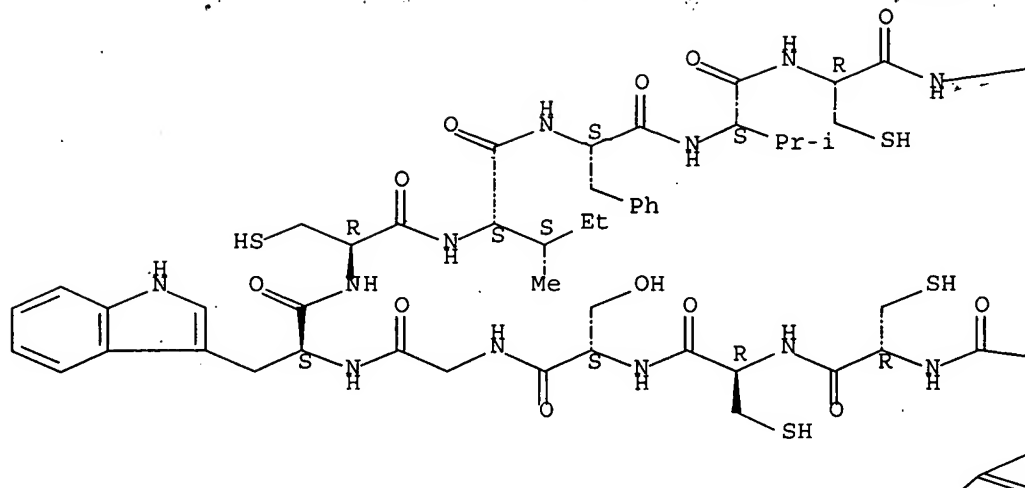
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 910666-26-1P 910666-27-2P  
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);  
 PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP  
 (Preparation); USES (Uses)  
 (o-conotoxin amino acid sequence; protein and cDNA sequences  
 of O-superfamily conotoxins from Conus, and their uses as  
 analgesics and pesticides)

RN 254748-07-7 CAPLUS  
 CN L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartyl-L-serylglycyl-L-  
 threonyl-L-seryl-L-cysteinyl-L-asparaginyl-L-threonylglycyl-L-asparaginyl-  
 L-glutaminyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-  
 cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-cysteinyl- (9CI) (CA INDEX  
 NAME)

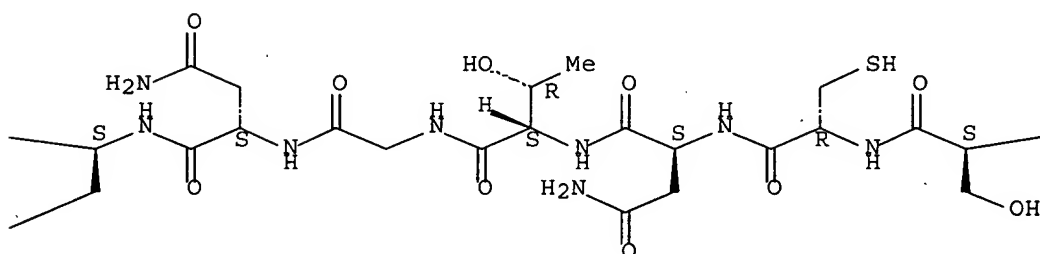
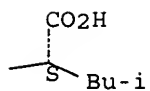
SEQ 1 CYDSGTSCNT GNQCCSGWCI FVCL

Absolute stereochemistry.

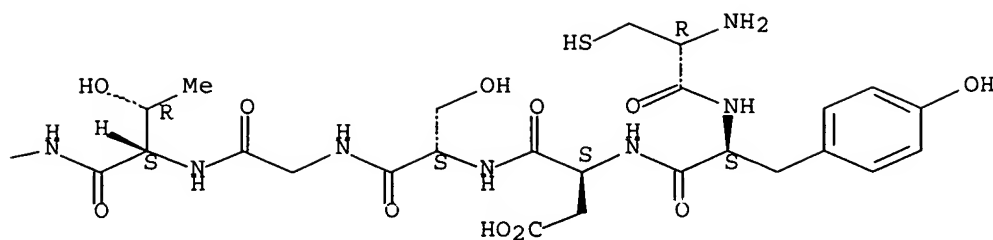
PAGE 1-A



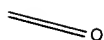
PAGE 1-B



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H<sub>2</sub>N

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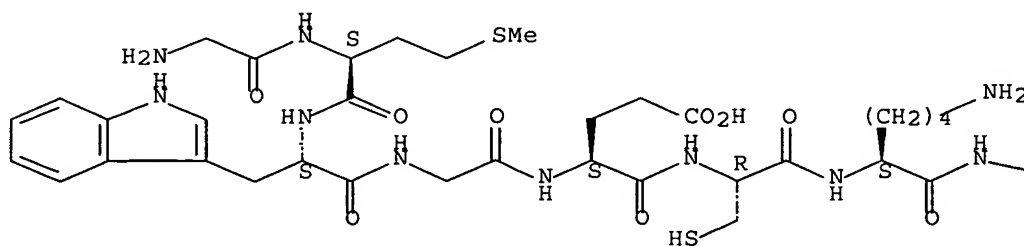
RN 910630-01-2 CAPLUS

CN L-Tryptophan, glycyl-L-methionyl-L-tryptophylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl-L-prolyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-cysteinyl-L- $\alpha$ -glutamylglycyl-L-seryl-L-cysteinyl-L-threonyl-L-methionyl- (9CI) (CA INDEX NAME)

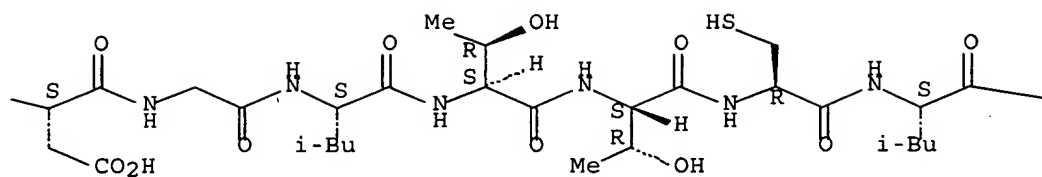
SEQ 1 GMWGECKDGL TTCLAPSECC SEDCEGSCTM W

Absolute stereochemistry.

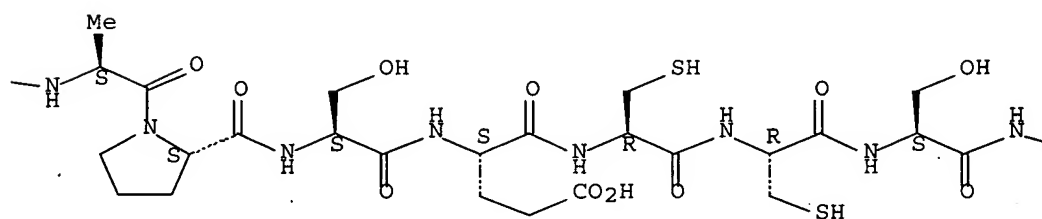
PAGE 1 - A



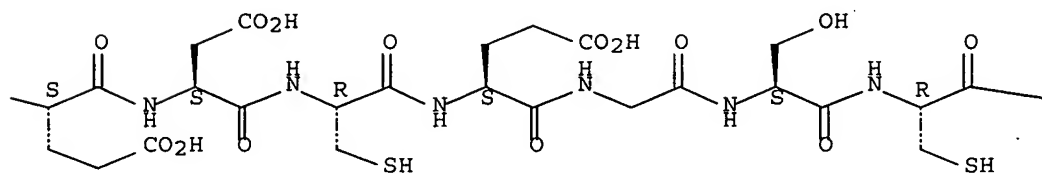
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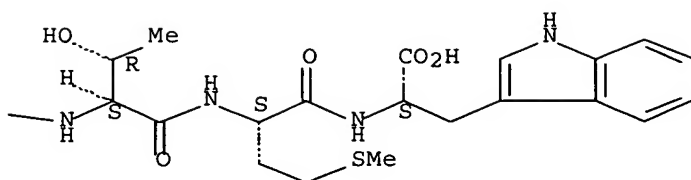


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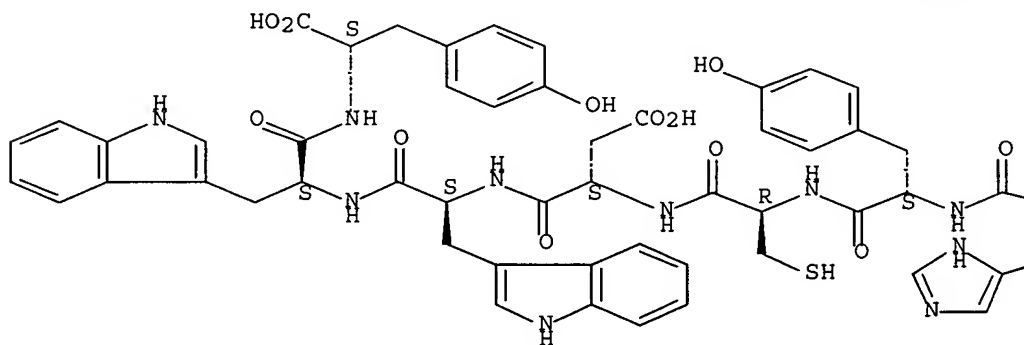


RN 910630-02-3 CAPLUS

CN L-Tyrosine, L- $\alpha$ -glutamyl-L-cysteinyl-L-threonyl-L-alanyl-L-prolyl-L-serylglycyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-prolyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-valyl-L- $\alpha$ -glutamyl-L-cysteinylglycyl-L-arginyl-L-histidyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-tryptophyl-L-tryptophyl- (9CI)  
(CA INDEX NAME)

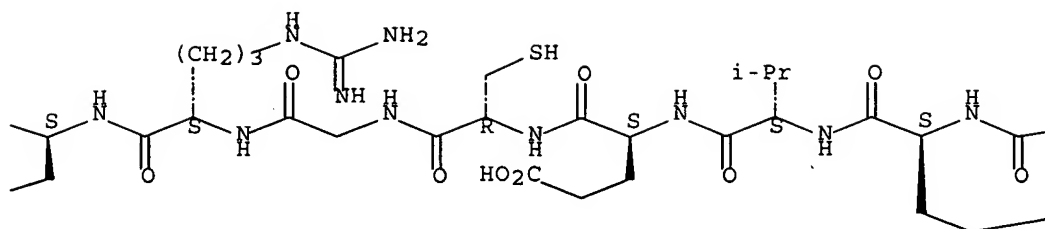
SEQ 1 ECTAPSGYCD YPEECCEVEC GRHYCDWWY

Absolute stereochemistry.

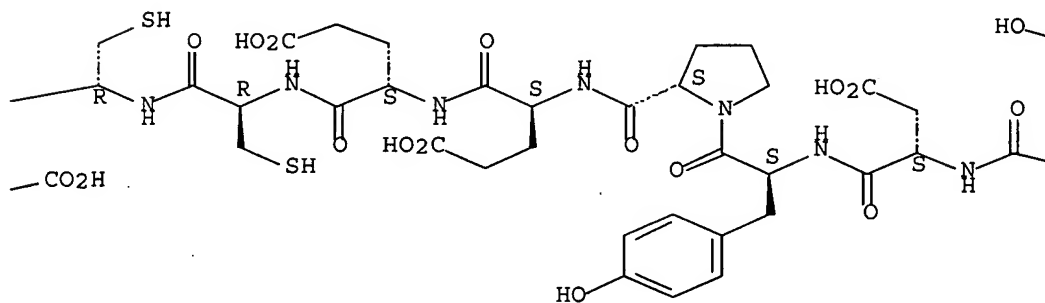




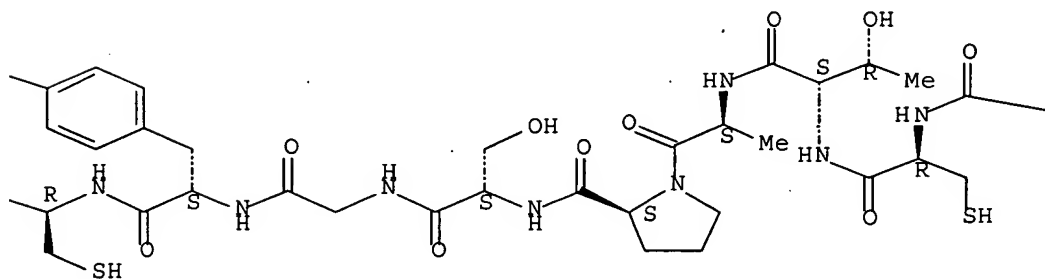
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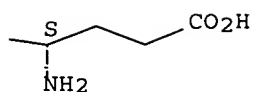


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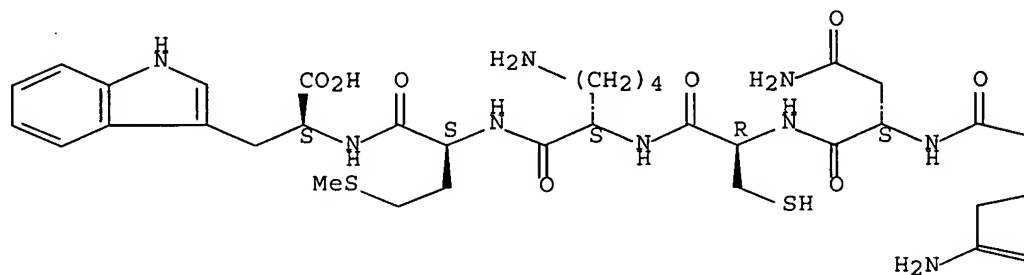
RN 910630-03-4 CAPLUS

CN L-Tryptophan, L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl-L-prolyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-asparaginyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-glutaminyl-L-asparaginyl-L-cysteinyl-L-lysyl-L-methionyl- (9CI) (CA INDEX NAME)

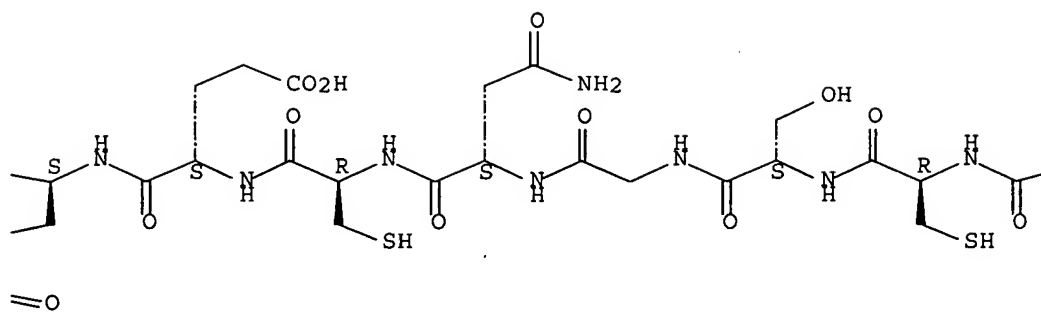
SEQ 1 CKDGLTTCLA PSECCSGNCE QNCKMW

Absolute stereochemistry.

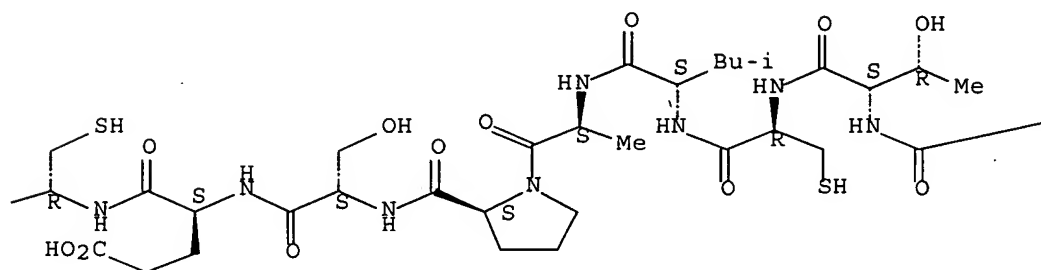
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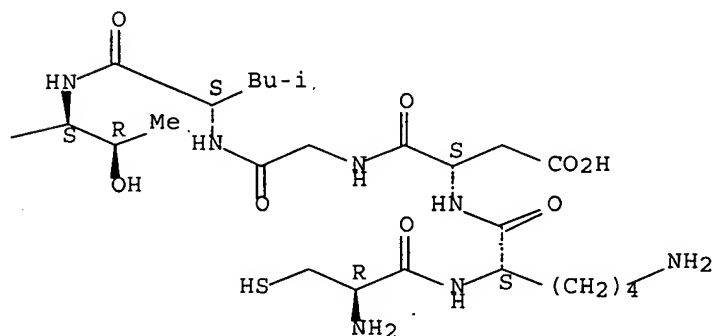
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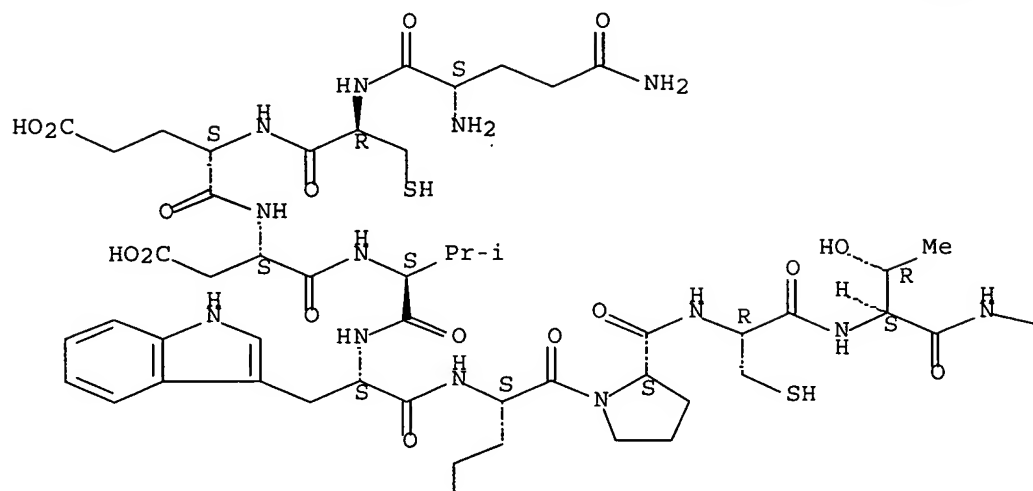
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CN L-Isoleucine, L-glutaminyl-L-cysteinyl-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-valyl-L-tryptophyl-L-methionyl-L-prolyl-L-cysteinyl-L-threonyl-L-seryl-L-asparaginyl-L-tryptophyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-leucyl-L- $\alpha$ -aspartyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-methionyl-L-tyrosyl-L-cysteinyl-L-threonyl-L-glutaminyl- (9CI)  
(CA INDEX NAME)

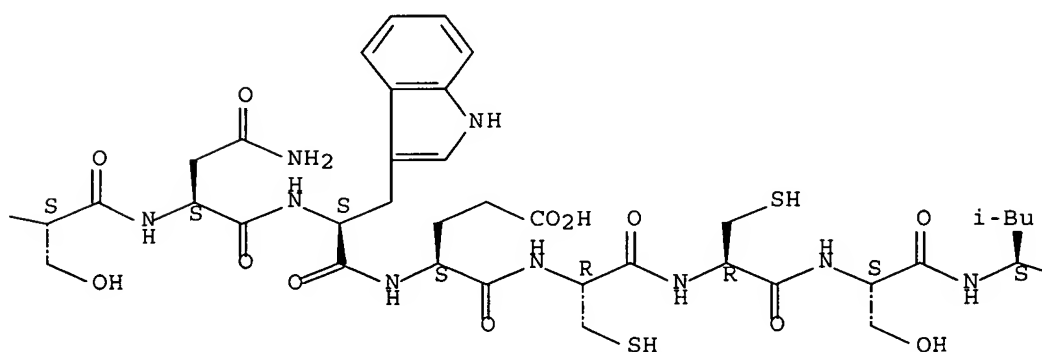
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Absolute stereochemistry.

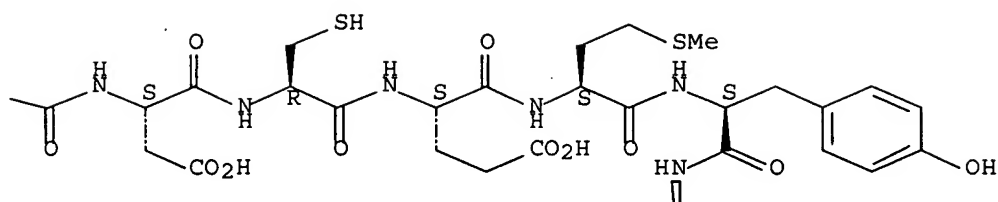
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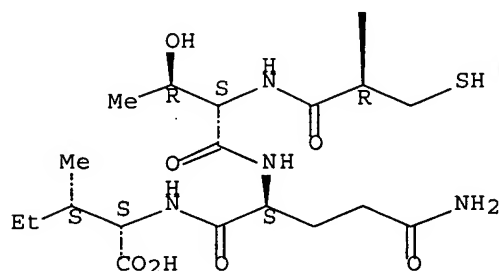
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PAGE 2-A



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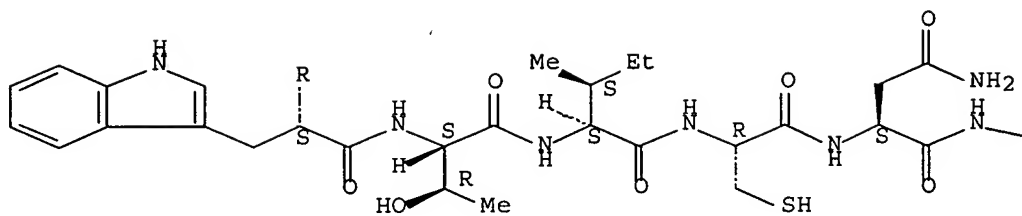
RN 910630-07-8 CAPLUS

CN L-Glutamine, glycyl-L-cysteinyl-L-α-aspartyl-L-prolyl-L-lysyl-L-tryptophyl-L-threonyl-L-isoleucyl-L-cysteinyl-L-asparaginyl-L-asparaginyl-L-α-aspartyl-L-alanyl-L-α-glutamyl-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-prolyl-L-tyrosyl-L-seryl-L-cysteinyl-L-α-glutamyl-L-asparaginyl-L-seryl-L-asparaginyl-L-cysteinyl- (9CI) (CA INDEX NAME)

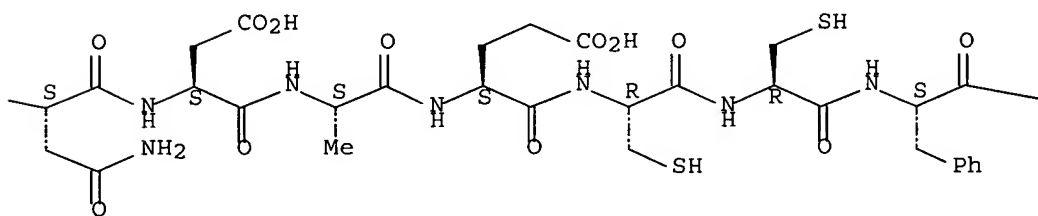
SEQ 1 GCDPKWTICN NDAECCFPYS CENSNCQ

Absolute stereochemistry.

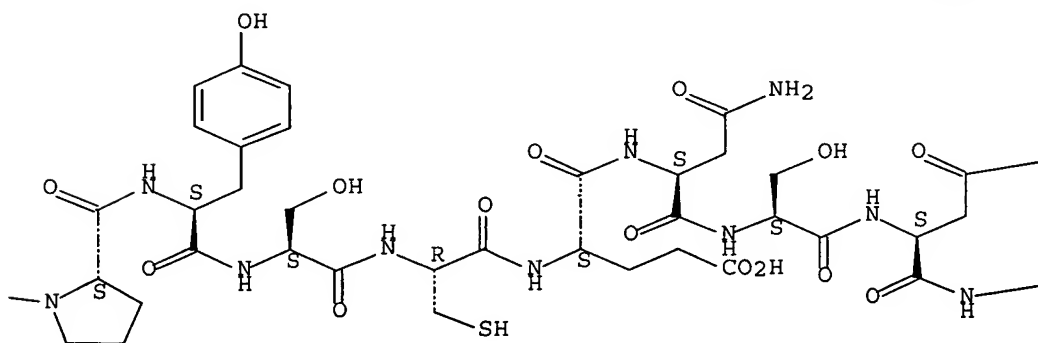
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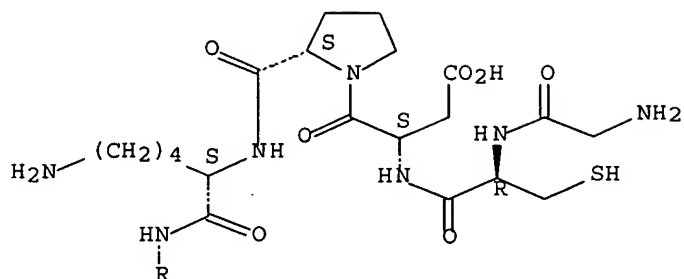
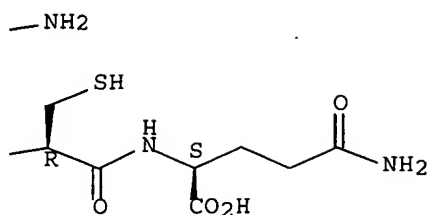


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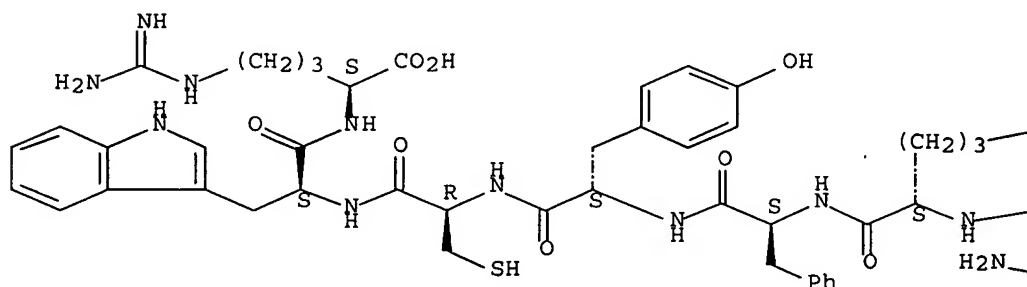


RN 910630-08-9 CAPLUS

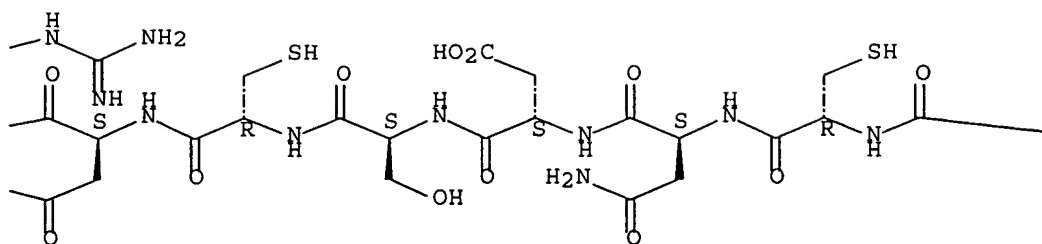
CN L-Arginine, L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-prolyl-L-cysteinyl-L-lysyl-L-alanyl-L-arginyl-L-leucyl-L- $\alpha$ -glutamyl-L-leucyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-arginyl-L-asparaginyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-asparaginyl-L- $\alpha$ -aspartyl-L-seryl-L-cysteinyl-L-asparaginyl-L-arginyl-L-phenylalanyl-L-tyrosyl-L-cysteinyl-L-tryptophyl- (9CI) (CA INDEX NAME)

SEQ 1 EEPCKARLEL CERNEECND SCNRFYCWR

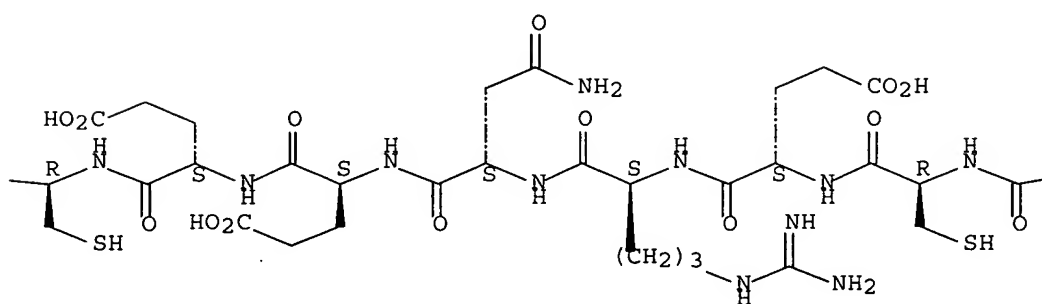
Absolute stereochemistry.



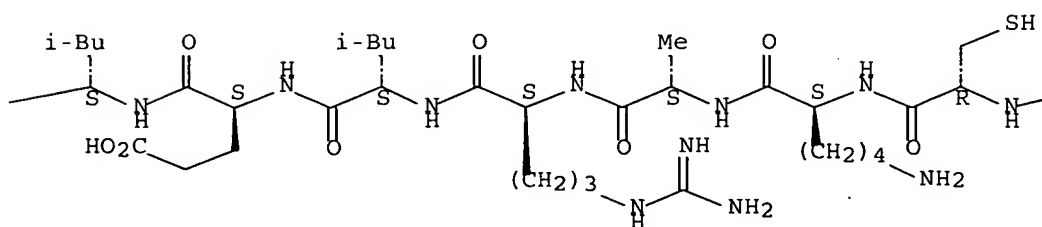
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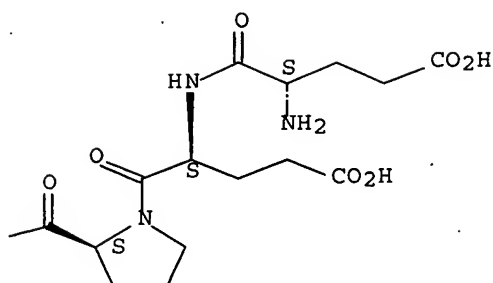


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RN 910666-24-9 CAPLUS

CN L-Tryptophan, L-tryptophylglycylglycyl-L-cysteinyl-L-methionyl-L-leucyl-L-tryptophyl-L-phenylalanylglycyl-L-arginyl-L-cysteinyl-L-threonyl-L-lysyl-L- $\alpha$ -aspartyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-asparaginyl-L-seryl-L-cysteinyl-L- $\alpha$ -aspartyl-L-arginyl-L-threonyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-leucyl-L-alanyl-L-arginyl-L-phenylalanyl-L-prolyl-L-seryl-L- $\alpha$ -aspartyl- (9CI) (CA INDEX NAME)

SEQ 1 WGGCMLWFGR CTKDSECCSN SCDRTYCELA RFPDWD

RN 910666-25-0 CAPLUS

CN L-Tryptophan, L-seryl-L-threonyl-L-alanyl-L- $\alpha$ -glutamyl-L-seryl-L-tryptophyl-L-tryptophyl-L- $\alpha$ -glutamylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-lysylglycyl-L-tryptophyl-L-seryl-L-valyl-L-tyrosyl-L-cysteinyl-L-seryl-L-tryptophyl-L- $\alpha$ -aspartyl-L-tryptophyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-threonyl-L-arginyl-L-tyrosyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-leucyl- (9CI) (CA INDEX NAME)

SEQ 1 STAESWWEGE CKGWSVYCSW DWECCSGECT RYYCELW

RN 910666-26-1 CAPLUS

CN L-Tryptophan, L-seryl-L-valyl-L-valyl-L- $\alpha$ -glutamyl-L-seryl-L-tryptophyl-L-tryptophyl-L- $\alpha$ -glutamylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-seryl-L-valyl-L-tyrosyl-L-cysteinyl-L-valyl-L-asparaginyl-L- $\alpha$ -aspartyl-L-tryptophyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L- $\alpha$ -glutamyl-L-cysteinylglycylglycyl-L-seryl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-leucyl- (9CI) (CA INDEX NAME)

SEQ 1 SVVESWWEGE CSGWSVYCVN DWECCSGECG GSYCELW

RN 910666-27-2 CAPLUS

CN L-Tryptophan, L-tryptophyl-L-tryptophyl-L- $\alpha$ -aspartylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-arginyl-L-leucyl-L-tryptophyl-L-seryl-L-asparaginylglycyl-L-cysteinyl-L-arginyl-L-lysyl-L-histidyl-L-lysyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-asparaginyl-L-histidyl-L-cysteinyl-L-lysylglycyl-L-isoleucyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-isoleucyl- (9CI) (CA INDEX NAME)

SEQ 1 WWDGECRLWS NGCRKHKECC SNHCKGIYCD IW

L17 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:661970 CAPLUS Full-text

DOCUMENT NUMBER: 145:308266

TITLE: Novel  $\gamma$ -carboxyglutamic acid-containing peptides from the venom of Conus textile

AUTHOR(S): Czerwiec, Eva; Kalume, Dario E.; Roepstorff, Peter; Hambe, Bjorn; Furie, Bruce; Furie, Barbara C.; Stenflo, Johan

CORPORATE SOURCE: Marine Biological Laboratory, Woods Hole, MA, USA

SOURCE: FEBS Journal (2006), 273(12), 2779-2788

CODEN: FJEOAC; ISSN: 1742-464X

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 09 Jul 2006

AB The cone snail is the only invertebrate system in which the vitamin K-dependent carboxylase (or  $\gamma$ -carboxylase) and its product  $\gamma$ -carboxyglutamic acid (Gla) have been identified. It remains the sole source of structural information of invertebrate  $\gamma$ -carboxylase substrates. Four novel Gla-containing peptides were purified from the venom of Conus textile and characterized using biochem. methods and mass spectrometry. The peptides Gla(1)-TxVI, Gla(2)-TxVI/A, Gla(2)-TxVI/B and Gla(3)-TxVI each have six Cys residues and belong to the O-superfamily of conotoxins. All four conopeptides contain 4-trans-hydroxyproline and the unusual amino acid 6-L-bromotryptophan. Gla(2)-TxVI/A and Gla(2)-TxVI/B are isoforms with an amidated C-terminus that differ at positions + 1 and + 13. Three isoforms of Gla(3)-TxVI were observed that differ at position + 7: Gla(3)-TxVI, Glu7-Gla(3)-TxVI and Asp7-Gla(3)-TxVI. The cDNAs encoding the precursors of the four peptides were cloned. The predicted signal sequences (amino acids -46 to -27) were nearly identical and highly hydrophobic. The predicted propeptide region (-20 to -1) that contains the  $\gamma$ -carboxylation recognition site ( $\gamma$ -CRS) is very similar in Gla(2)-TxVI/A, Gla(2)-TxVI/B and Gla(3)-TxVI, but is more divergent for Gla(1)-TxVI. Kinetic studies utilizing the Conus  $\gamma$ -carboxylase and synthetic peptide substrates localized the  $\gamma$ -CRS of Gla(1)-TxVI to the region -14 to -1 of the polypeptide precursor: the  $K_m$  was reduced from 1.8 mM for Gla (1)-TxVI lacking a propeptide to 24  $\mu$ M when a 14-residue propeptide was attached to the substrate. Similarly, addition of an 18-residue propeptide to Gla(2)-TxVI/B reduced the  $K_m$  value tenfold.

IT 367965-81-9P, Conotoxin Gla(1)-TxVI (Conus textile venom) 367965-86-4P, Conotoxin Gla(3)-TxVI (Conus textile venom) 908040-41-5P 908040-42-6P

908040-44-8P 908040-48-2P 909111-75-7P,  
 Conotoxin Gla(3)-TxVI [7-glutamic acid] (Conus textile venom)  
 909111-76-8P, Conotoxin Gla(3)-TxVI [7-aspartic acid]  
 (Conus textile venom)

RL: ANT (Analyte); PRP (Properties); PUR (Purification or recovery); ANST  
 (Analytical study); PREP (Preparation)

(amino acid sequence; novel  $\gamma$ -carboxyglutamic acid-containing  
 peptides from venom of Conus textile)

RN 367965-81-9 CAPLUS

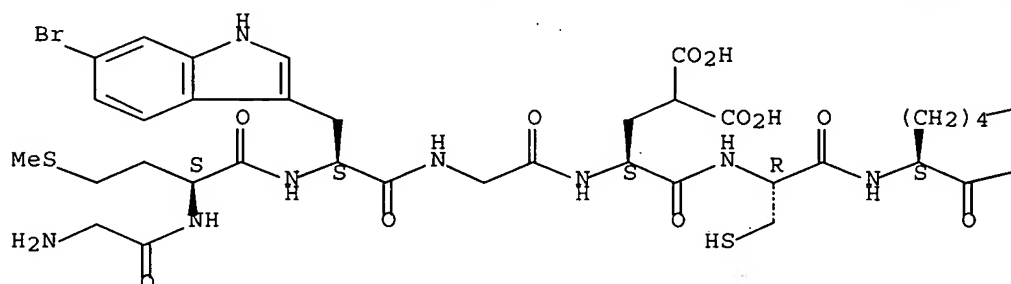
CN L-Tryptophan, glycyl-L-methionyl-6-bromo-L-tryptophylglycyl-4-carboxy-L-  
 $\alpha$ -glutamyl-L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-  
 threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl- (4R) -4-hydroxy-L-prolyl-  
 L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-4-  
 carboxy-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-cysteinyl-4-carboxy-L-  
 $\alpha$ -glutamylglycyl-L-seryl-L-cysteinyl-L-threonyl-L-methionyl-6-bromo-  
 (9CI) (CA INDEX NAME)

NTE modified (modifications unspecified)

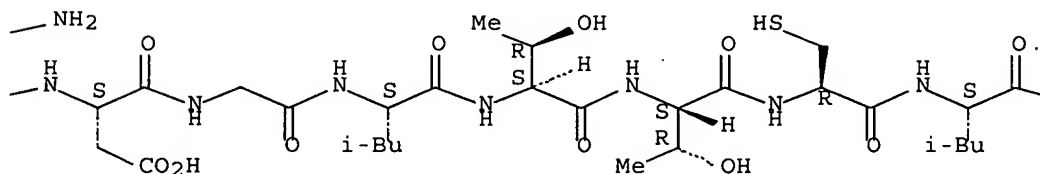
SEQ 1 GMWGXCKDGL TTCLAXSXCC SXDCXGSC TM W

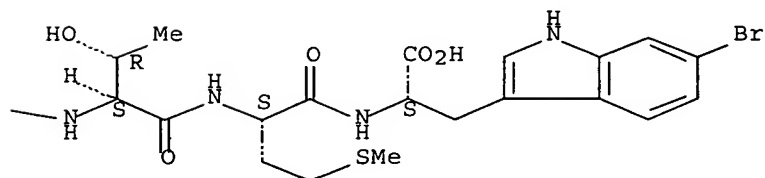
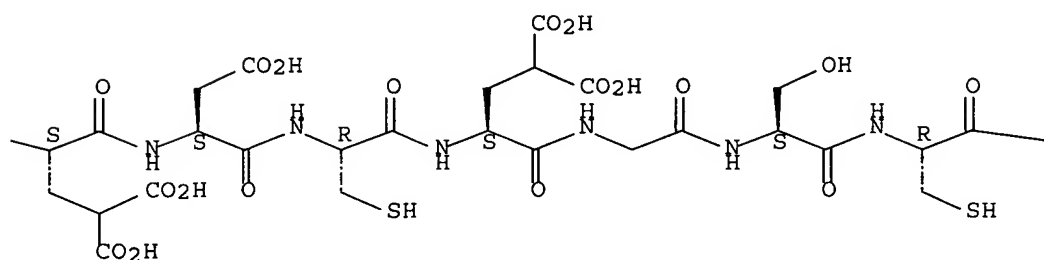
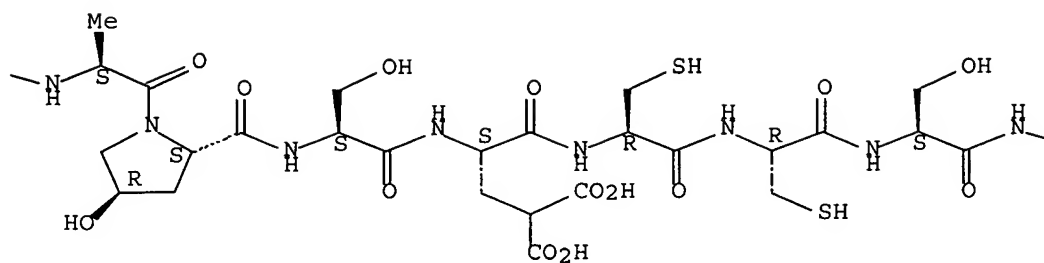
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





RN 367965-86-4 CAPLUS

CN Glycine, L-leucyl-L-cysteinyl-(4R)-4-hydroxy-L-prolyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-threonyl-4-carboxy-L- $\alpha$ -glutamyl-(4R)-4-hydroxy-L-prolyl-L-cysteinyl-L-seryl-L-histidyl-L-alanyl-L-histidyl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-6-bromo-L-tryptophyl-L-

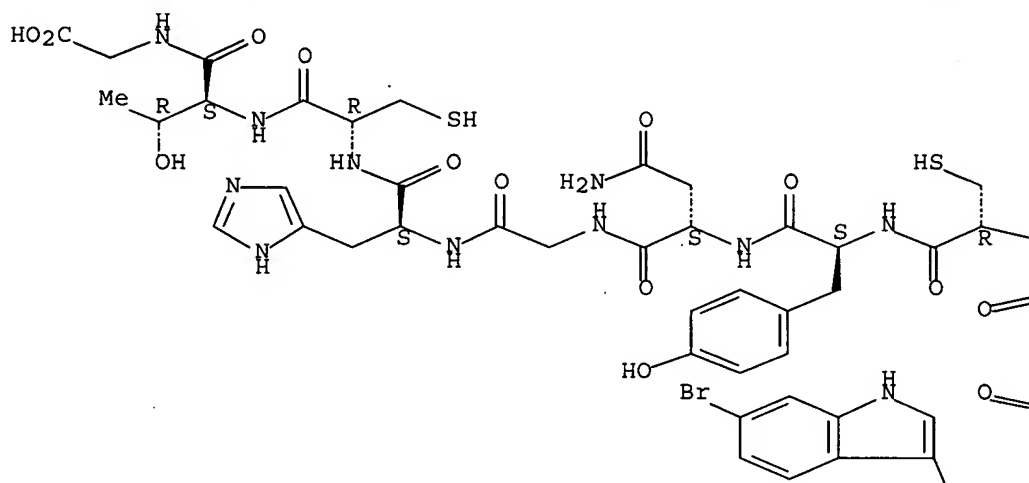
asparaginyl-L-cysteinyl-L-tyrosyl-L-asparaginylglycyl-L-histidyl-L-  
cysteinyl-L-threonyl- (9CI) (CA INDEX NAME)

NTE modified

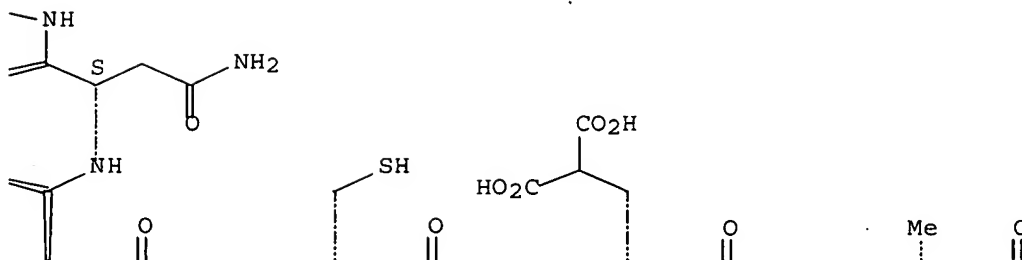
SEQ 1 LCXDYTXACS HAHXCCSWNC YNGHCTG

Absolute stereochemistry.

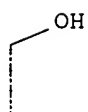
PAGE 1-A



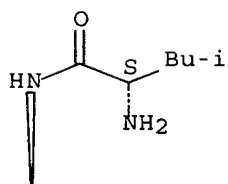
PAGE 1-B



PAGE 1-C

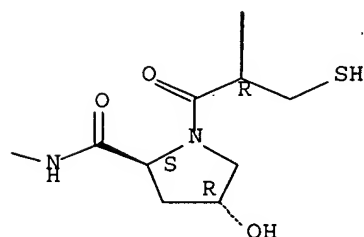
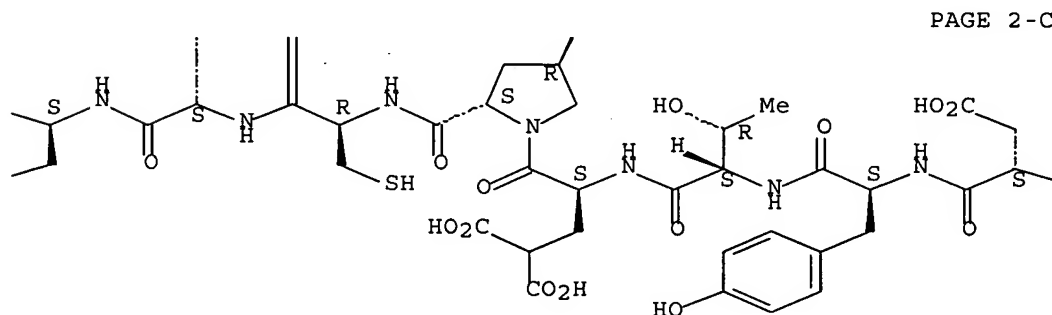
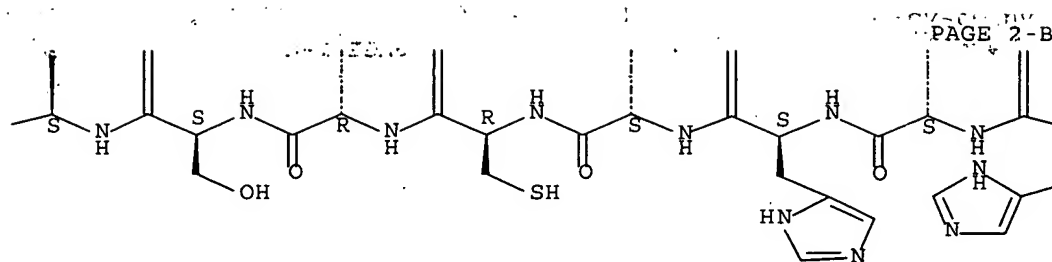


PAGE 1-D



PAGE 2-A





RN 908040-41-5 CAPLUS  
 CN Conotoxin Gla(3)-TxVI, prepro- (Conus textile venom) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLLV AAVLMSTQAV LQEKRPKEKI KLLSKRKTD A EKQQKRLCPD  
 51 YTEPCSHAHE CCSWNCYGNH CTG

RN 908040-42-6 CAPLUS  
 CN L-Tryptophan, L-histidyl-L-seryl-L-lysyl-L- $\alpha$ -glutamyl-L-asparaginyl-L-isoleucyl-L-asparaginyl-L-phenylalanyl-L-leucyl-L-leucyl-L-lysyl-L-arginyl-L-lysyl-L-arginyl-L-alanyl-L-alanyl-L- $\alpha$ -aspartyl-L-arginylglycyl-L-methionyl-L-tryptophylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl-L-prolyl-L-seryl-L- $\alpha$ -glutamyl-L-

cysteiny1-L-cysteiny1-L-seryl-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-  
 cysteiny1-L- $\alpha$ -glutamylglycyl-L-seryl-L-cysteiny1-L-threony1-L-  
 methionyl- (9CI) (CA INDEX NAME)

SEQ 1 HSKENINFL1 KRAADRG1 WGECKDGLTT CLAPSECCSE DCEGSCTMW

RN 908040-44-8 CAPLUS

CN Glycine, L- $\alpha$ -glutamyl-L-lysyl-L-isoleucyl-L-lysyl-L-leucyl-L-leucyl-  
 L-seryl-L-lysyl-L-arginyl-L-lysyl-L-threony1-L- $\alpha$ -aspartyl-L-alanyl-L-  
 $\alpha$ -glutamyl-L-lysyl-L-glutaminy1-L-glutaminy1-L-lysyl-L-arginyl-L-  
 leucyl-L-cysteiny1-L-proly1-L- $\alpha$ -aspartyl-L-tyrosyl-L-threony1-L-  
 $\alpha$ -glutamyl-L-proly1-L-cysteiny1-L-seryl-L-histidyl-L-alanyl-L-  
 histidyl-L- $\alpha$ -glutamyl-L-cysteiny1-L-cysteiny1-L-seryl-L-tryptophyl-L-  
 asparaginy1-L-cysteiny1-L-tyrosylglycyl-L-asparaginy1-L-histidyl-L-  
 cysteiny1-L-threony1- (9CI) (CA INDEX NAME)

SEQ 1 EKIKLLSKRK TDAEKQKRL CPDYTEPCSH AHECCSWNCY GNHCTG

RN 908040-48-2 CAPLUS

CN Conotoxin Gla(1)-TxVI, prepro- (Conus textile venom) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL VERAGENHSK ENINFL1K1K1 RAADRG1MWGE  
 51 CKDGLTTCLA PSECCSEDCE GSCTMW

RN 909111-75-7 CAPLUS

CN Glycine, L-leucyl-L-cysteiny1-(4R)-4-hydroxy-L-proly1-L- $\alpha$ -aspartyl-L-  
 tyrosyl-L-threony1-L- $\alpha$ -glutamyl-(4R)-4-hydroxy-L-proly1-L-cysteiny1-  
 L-seryl-L-histidyl-L-alanyl-L-histidyl-4-carboxy-L- $\alpha$ -glutamyl-L-  
 cysteiny1-L-cysteiny1-L-seryl-6-bromo-L-tryptophyl-L-asparaginy1-L-  
 cysteiny1-L-tyrosyl-L-asparaginy1glycyl-L-histidyl-L-cysteiny1-L-threony1-  
 (9CI) (CA INDEX NAME)

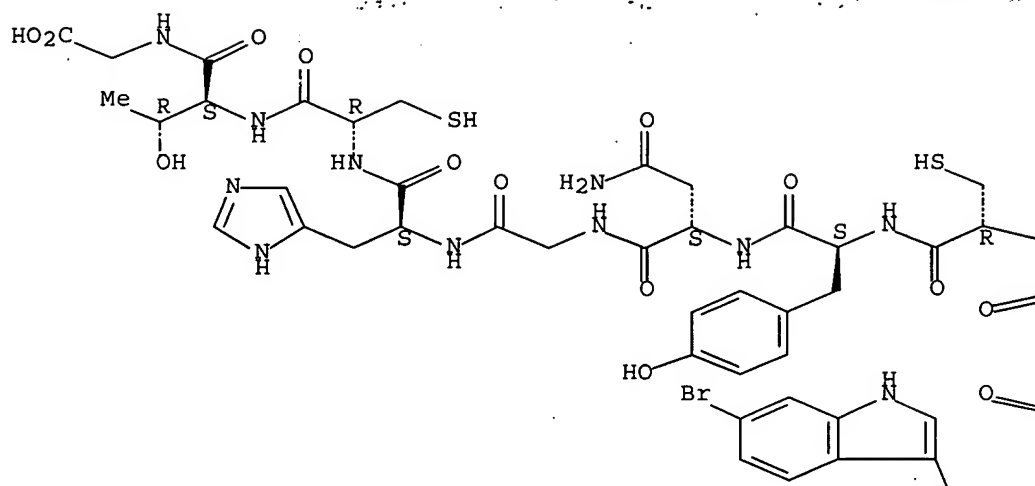
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SEQ 1 LCXDYTEXCS HAHXCCSWNC YNGHCTG

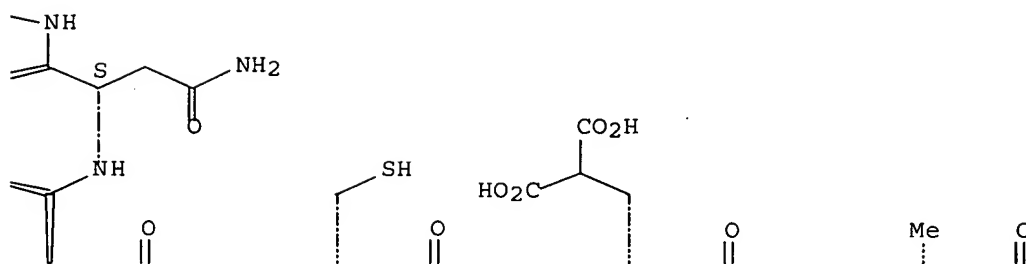
Absolute stereochemistry.



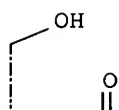
PAGE 1-A



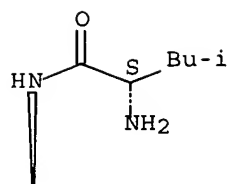
PAGE 1-B



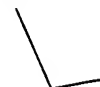
PAGE 1-C



PAGE 1-D



PAGE 2-A



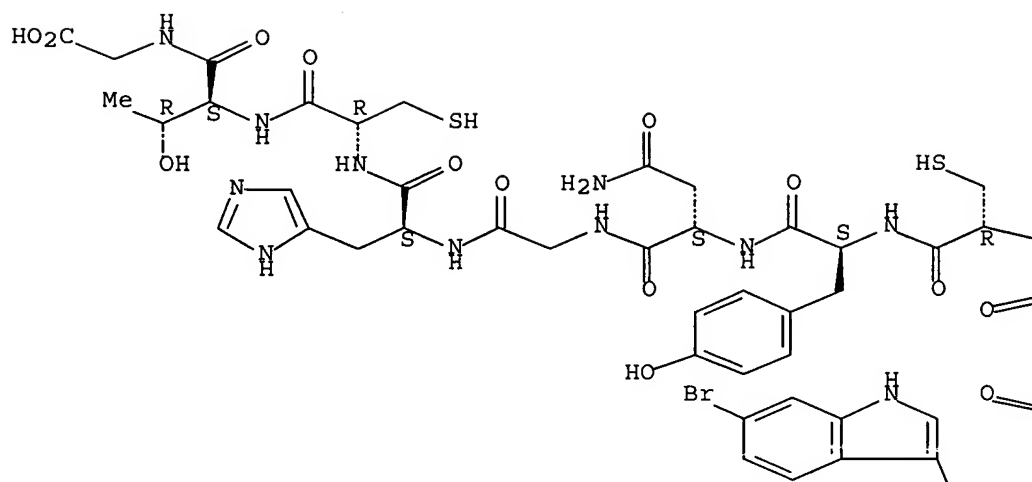
[illegible]

CN Glycine, L-leucyl-L-cysteinyl-(4R)-4-hydroxy-L-prolyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-threonyl-L- $\alpha$ -aspartyl-(4R)-4-hydroxy-L-prolyl-L-cysteinyl-L-seryl-L-histidyl-L-alanyl-L-histidyl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-6-bromo-L-tryptophyl-L-asparaginyl-L-cysteinyl-L-tyrosyl-L-asparaginylglycyl-L-histidyl-L-cysteinyl-L-threonyl-(9CI) (CA INDEX NAME)

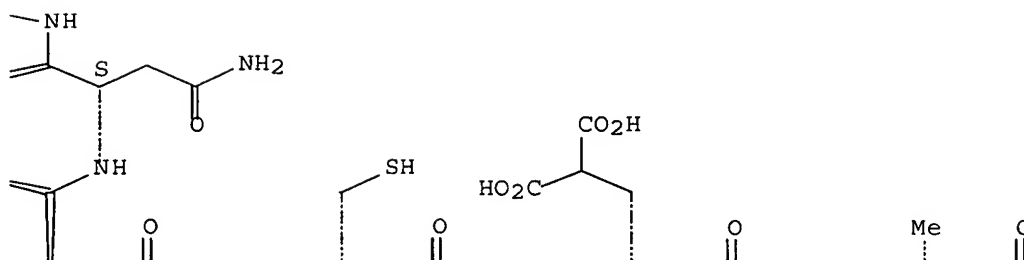
SEQ 1 LCXDYTDXCS HAHXCCSWNC YNGHCTG

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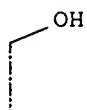
PAGE 1-B



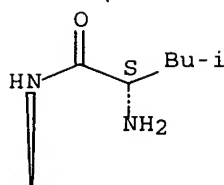
m duct in Biochem. anal. using

Volume of 1.0 ml. (100.0000) (10.0000) (1.0000)

PAGE 1-C

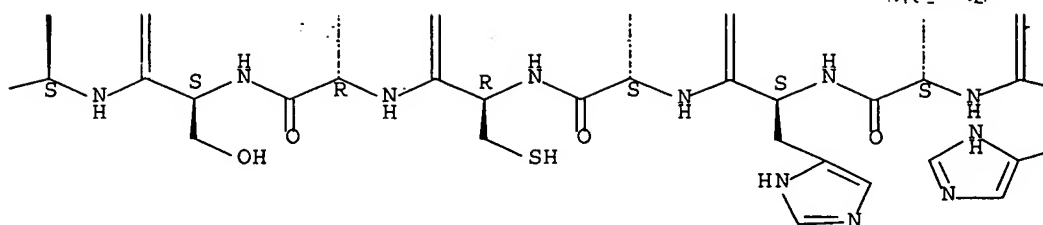


PAGE 1-D

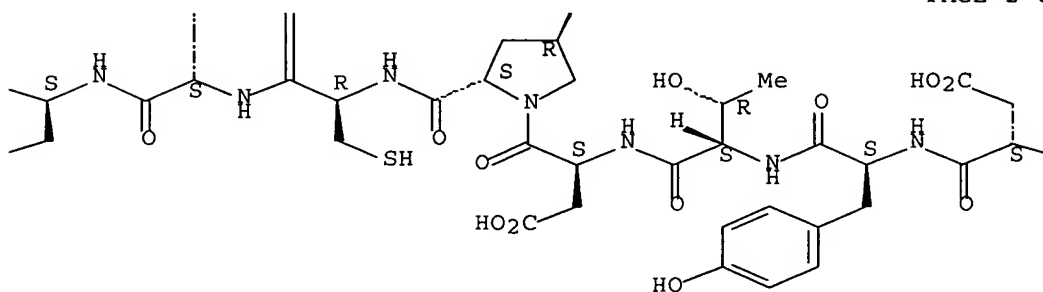


PAGE 2-A

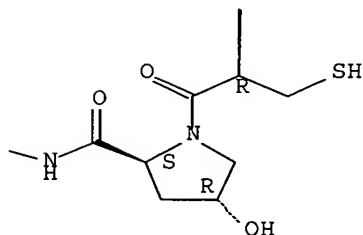




PAGE 2-C



PAGE 2-D



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 8 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:1068918 CAPLUS Full-text  
 DOCUMENT NUMBER: 144:33026  
 TITLE: Characterization of D-amino-acid-containing excitatory conotoxins and redefinition of the I-conotoxin superfamily. [Erratum to document cited in CA143:417430]  
 AUTHOR(S): Buczek, Olga; Yoshikami, Doju; Watkins, Maren; Bulaj, Grzegorz; Jimenez, Elsie C.; Olivera, Baldomero M.  
 CORPORATE SOURCE: Department of Biology and 2 Pathology, University of Utah, Salt Lake City, UT, 84112, USA  
 SOURCE: FEBS Journal (2005), 272(18), 4839  
 CODEN: FJEOAC; ISSN: 1742-464X  
 PUBLISHER: Blackwell Publishing Ltd.  
 DOCUMENT TYPE: Journal

LANGUAGE: English  
 EV Entered STN: 06 Oct 2005  
 AB The corrected versions of the legends to Table 1 and Table 3 are given.  
 IT 868174-58-7 868174-63-4

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (amino acid sequence; characterization of D-amino-acid-containing  
 excitatory conotoxins and redefinition of I-conotoxin  
 superfamily (Erratum))

RN 868174-58-7 CAPLUS

CN L-Arginine, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-  
 threonyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-asparaginyl-L- $\alpha$ -  
 aspartyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-leucyl-L-  
 asparaginyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-  
 tryptophylglycylglycyl-L-cysteinylglycyl-L-histidyl-L-prolyl-L-cysteinyl-L-  
 arginyl-L-histidyl-L-prolylglycyl-L-lysyl-L-arginyl-L-seryl-L-lysyl-L-  
 leucyl-L-glutaminyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-phenylalanyl-L-  
 arginyl-L-glutaminyl- (9CI) (CA INDEX NAME)

SEQ 1 CRAEGTYCEN DSQCCLNECC WGGCGHPCRH PGKRSKLQEF FRQR

RN 868174-63-4 CAPLUS

CN Conotoxin Sx11.2 (Conus striolatus venom precursor) (9CI) (CA INDEX NAME)

SEQ 1 MMFRVTSVGC LLLVIVFLNL VVPTSACRAE GTYCENDSQC CLNECCWGGC  
 51 GHPCRHPGKR SKLQEFFRQR

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 9 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:966926 CAPLUS Full-text

DOCUMENT NUMBER: 143:417430

TITLE: Characterization of D-amino-acid-containing excitatory  
 conotoxins and redefinition of the I-  
 conotoxin superfamily

AUTHOR(S): Buczek, Olga; Yoshikami, Doju; Watkins, Maren; Bulaj,  
 Grzegorz; Jimenez, Elsie C.; Olivera, Baldomero M.

CORPORATE SOURCE: Department of Biology and 2 Pathology, University of  
 Utah, Salt Lake City, UT, 84112, USA

SOURCE: FEBS Journal (2005), 272(16), 4178-4188

CODEN: FJEOAC; ISSN: 1742-464X

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 05 Sep 2005

AB Post-translational isomerization of L-amino acids to D-amino acids is a subtle  
 modification, not detectable by standard techniques such as Edman sequencing  
 or MS. Accurate predictions require more sequences of modified polypeptides.  
 A 46-amino-acid-long conotoxin, r11a, belonging to the I-superfamily was  
 previously shown to have a D-Phe residue at position 44. In this report, we  
 characterize two related peptides, r11b and r11c, with D-Phe and D-Leu, resp.,  
 at the homologous position. Electrophysiol. tests show that all three

peptides induce repetitive activity in frog motor nerve, and epimerization of the single amino acid at the third position from the C-terminus attenuates the potency of r11a and r11b, but not that of r11c. Furthermore, r11c (but neither r11a nor r11b) also acts on skeletal muscle. We identified more cDNA clones encoding conopeptide precursors with Cys patterns similar to r11a/b/c. Although the predicted mature toxins have the same cysteine patterns, they belong to two different gene superfamilies. A potential correlation between the identity of the gene superfamily to which the I-conotoxin belongs and the presence or absence of a D-amino acid in the primary sequence is discussed. The great diversity of I-conopeptide sequences provides a rare opportunity for defining parameters that may be important for this most stealthy of all post-translational modifications. Our results indicate that neither the chemical nature of the side chain nor the precise vicinal sequence around the modified residue seem to be critical, but there may be favored loci for isomerization to a D-amino acid.

IT 868174-58-7 868174-63-4

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; characterization of D-amino-acid-containing excitatory conotoxins and redefinition of I-conotoxin superfamily)

RN 868174-58-7 CAPLUS

CN L-Arginine, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-threonyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-asparaginyl-L- $\alpha$ -aspartyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-leucyl-L-asparaginyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-tryptophylglycylglycyl-L-cysteinylglycyl-L-histidyl-L-prolyl-L-cysteinyl-L-arginyl-L-histidyl-L-prolylglycyl-L-lysyl-L-arginyl-L-seryl-L-lysyl-L-leucyl-L-glutaminyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-phenylalanyl-L-arginyl-L-glutaminyl- (9CI) (CA INDEX NAME)

SEQ 1 CRAEGTYCEN DSQCCLNECC WGGCGHPCRH PGKR SKLQEF FRQR

RN 868174-63-4 CAPLUS

CN Conotoxin Sx11.2 (Conus striolatus venom precursor) (9CI) (CA INDEX NAME)

SEQ 1 MMFRVTSVGC LLLVIVFLNL VVPTSACRAE GTYCENDSQC CLNECCWGGC  
51 GHPCRHPGKR SKLQEFFRQR

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 10 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:599901 CAPLUS Full-text

DOCUMENT NUMBER: 144:17739

TITLE: Genome sequence of Chrysodeixis chalcites nucleopolyhedrovirus, a baculovirus with two DNA photolyase genes

AUTHOR(S): van Oers, Monique M.; Abma-Henkens, Marleen H. C.; Herniou, Elisabeth A.; de Groot, Joost C. W.; Peters, Sander; Vlak, Just M.

CORPORATE SOURCE: Laboratory of Virology, Wageningen University, Wageningen, 6709 PD, Neth.



mass and SOURCE: J. Gen. Virol. (2005), 86(7), 2069-2080

CODEN: JGVIAJ; ISSN: 0022-1317

PUBLISHER: Society for General Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Jul 2005

AB The complete genome sequence of a single nucleocapsid nucleopolyhedrovirus recently isolated from *Chrysodeixis chalcites* (ChchNPV) was determined. The viral genome has a size of 149,622 bp and an overall G + C content of 39.1 mol%. The sequence contains 151 predicted open reading frames (ORFs) with a minimal size of 50 codons. The similarity of these ORFs with those of other completely sequenced baculoviruses was calculated using a newly developed database, named GECCO. Phylogenetic anal. of the whole genome confirmed the evolutionary relationship of ChchNPV with group II NPVs, as did the absence of the NPV group I-specific gp64 gene. It is the first group II NPV to encode proliferating cell nuclear antigen. Most noteworthy is the presence of two ORFs encoding a class II cyclobutane pyrimidine dimer DNA photolyase. These two ORFs share only 45% amino acid identity and have different promoter motifs. Twenty-two additional unique baculovirus genes were identified, including a gene encoding a novel putative RING finger protein with a possible homolog in poxviruses.

IT 868092-71-1

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; sequences and predicted functions of proteins encoded by 151 ORFs found in *Chrysodeixis chalcites* nucleopolyhedrovirus)

RN 868092-71-1 CAPLUS

CN Conotoxin (*Chrysodeixis chalcites* nucleopolyhedrovirus gene c1) (9CI) (CA INDEX NAME)

SEQ 1 MHIRSVILAV VLLGYQYAMA CTETGRNCKY SDECCSGACS AVFGFCLHR

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 11 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:69337 CAPLUS Full-text

DOCUMENT NUMBER: 142:311059

TITLE: Biochemical and gene expression analyses of conotoxins in *Conus textile* venom ducts

AUTHOR(S): Garrett, James E.; Buczek, Olga; Watkins, Maren; Olivera, Baldomero M.; Bulaj, Grzegorz

CORPORATE SOURCE: Cognetix, Inc., Salt Lake City, UT, 84108, USA

SOURCE: Biochemical and Biophysical Research Communications (2005), 328(1), 362-367

CODEN: BBRC9; ISSN: 0006-291X

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 26 Jan 2005

AB Each *Conus* snail species produces 50-200 unique peptide-based conotoxins, derived from a number of different gene superfamilies. Conotoxins are synthesized and secreted in a long venom duct, but biochem. and mol. aspects of their biosynthesis remain poorly understood. Here, we analyzed expression patterns of conotoxin genes belonging to different superfamilies in *Conus textile* venom ducts. The results demonstrate that specific gene families are

expressed in particular regions of the venom duct. Biochem. anal. using liquid chromatography and mass spectrometry revealed an even more localized accumulation of individual conotoxins. This study demonstrates for the first time that specialization of gene expression, processing, and secretion of conotoxins occurs in different regions of the venom duct.

IT 254748-07-7,  $\delta$ -Conotoxin Tx 6.8

452055-81-1,  $\delta$ -Conotoxin Tx 6.14

RL: ANT (Analyte); ANST (Analytical study)

(amino acid sequence; biochem. and gene expression analyses of conotoxins in Conus textile venom ducts)

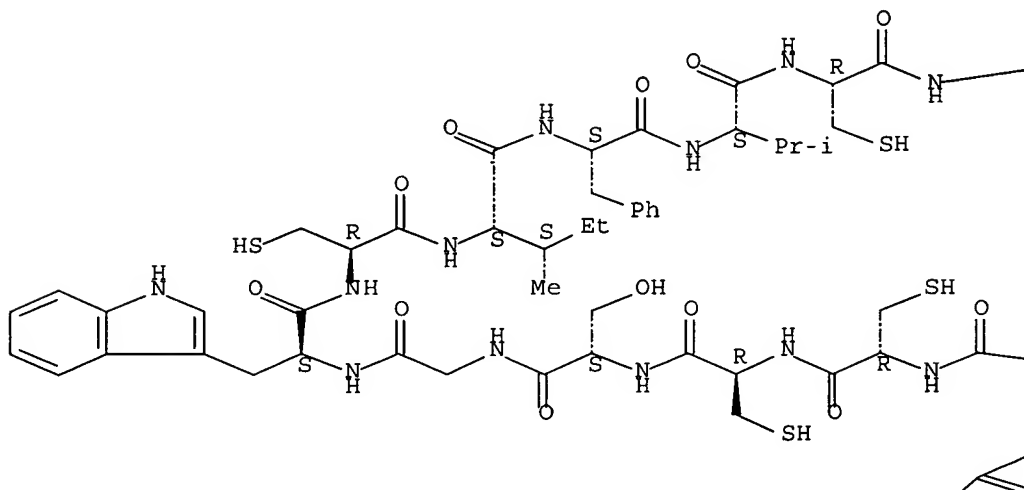
RN 254748-07-7 CAPLUS

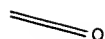
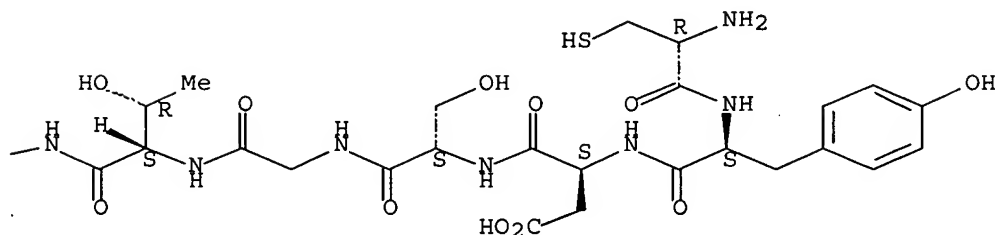
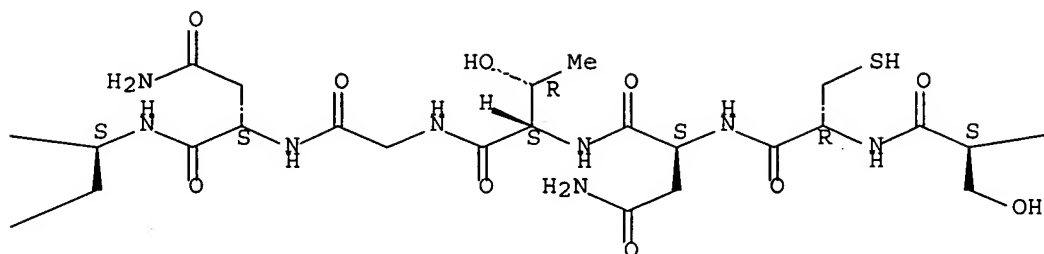
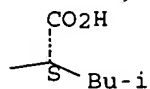
CN L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartyl-L-serylglycyl-L-threonyl-L-seryl-L-cysteinyl-L-asparaginyl-L-threonylglycyl-L-asparaginyl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-cysteinyl- (9CI) (CA INDEX NAME)

SEQ 1 CYDSGTSCNT GNQCCSGWCI FVCL

Absolute stereochemistry.

PAGE 1-A





RN 452055-81-1 CAPLUS

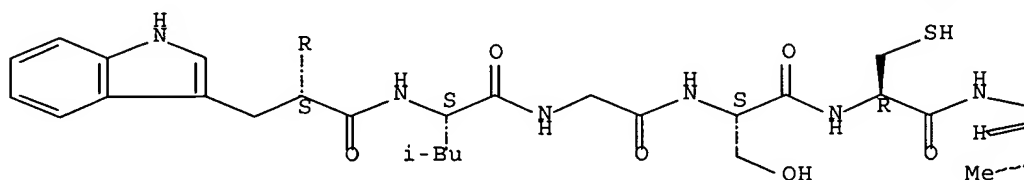
CN L-Arginine, L- $\alpha$ -aspartyl-L-cysteinyl-L-tyrosyl-L-seryl-L-tryptophyl-L-leucylglycyl-L-seryl-L-cysteinyl-L-isoleucyl-L-alanyl-L-prolyl-L-seryl-L-

glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L- $\alpha$ -glutamyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-tyrosyl-L-cysteinyl-L-arginyl-L-leucyl-L-tryptophyl- (9CI) (CA INDEX NAME)

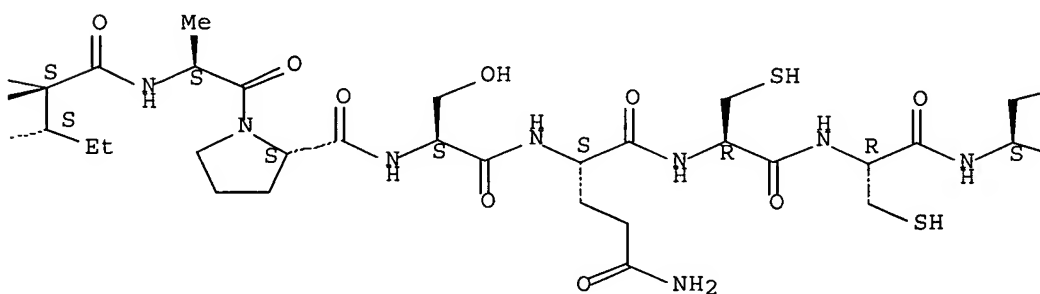
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Absolute stereochemistry.

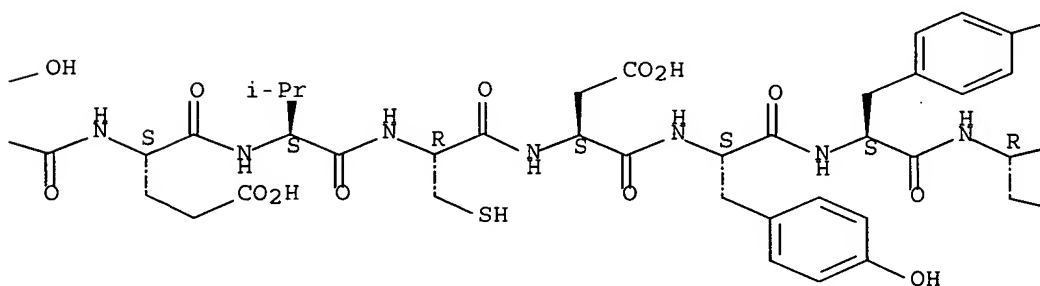
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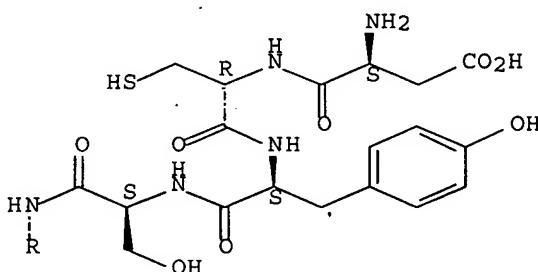
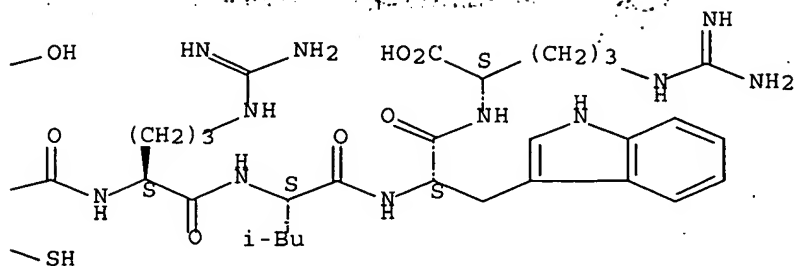


PAGE 1-B



PAGE 1-C





REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 12 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:437807 CAPLUS Full-text

DOCUMENT NUMBER: 141:201543

TITLE: Determining sequences and post-translational modifications of novel conotoxins in *Conus victoriae* using cDNA sequencing and mass spectrometry

AUTHOR(S): Jakubowski, Jennifer A.; Keays, David A.; Kelley, Wayne P.; Sandall, David W.; Bingham, Jon-Paul; Livett, Bruce G.; Gayler, Ken R.; Sweedler, Jonathan V.

CORPORATE SOURCE: Department of Chemistry and the Beckman Institute, University of Illinois, Urbana-Champaign, IL, 61801, USA

SOURCE: Journal of Mass Spectrometry (2004), 39(5), 548-557  
CODEN: JMSPFJ; ISSN: 1076-5174

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 31 May 2004

AB A combination of cDNA cloning and detailed mass spectrometric analyses was employed to identify novel conotoxins from *Conus victoriae*. Eleven conotoxin sequences were determined using mol. methods: one belonging to the A superfamily (Vc1.1), six belonging to the O superfamily (Vc6.1-Vc6.6) and four members of the T superfamily (Vc5.1-Vc5.4). In order to verify the sequences and identify the post-translational modifications (excluding the disulfide connectivity) of three *Conus victoriae* conotoxins, vc1a, vc5a and vc6a, deduced from sequences Vc1.1, Vc5.1, and Vc6.1, resp., liquid chromatog./electrospray ionization ion trap mass spectrometry, matrix-assisted

laser desorption/ionization time-of-flight mass spectrometry and nanospray ionization ion trap mass spectrometry with collisionally induced dissociation, were performed on reduced and alkylated venom fractions. We report that vcl<sub>1a</sub>, the native form of  $\alpha$ -conotoxin Vc1.1 (an unmodified 16 amino acid residue peptide that has notable pain-relieving capabilities), includes a hydroxyproline and a  $\gamma$ -carboxyglutamate residue. Conotoxin vc5a is a 10-residue peptide with two disulfide bonds and a hydroxyproline and vc6a is a 25 amino acid peptide with three disulfide bonds.

IT 740980-30-7

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; cDNA sequences and post-translational modifications of *Conus victoriae* conotoxins from venom)

RN 740980-30-7 CAPLUS

CN Conotoxin Vc6.6 (*Conus victoriae* precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCMVIVA VLFLTANTFV TAVPHSSNAL ENLYLKAHHE MNNPKDSELN  
51 KRCYDGGTGC DSGNQCCSGW CIFVCL

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 13 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:542179 CAPLUS Full-text

DOCUMENT NUMBER: 139:256564

TITLE: Distinct primary structures of the major peptide toxins from the venom of the spider *Macrothele gigas* that bind to sites 3 and 4 in the sodium channel  
AUTHOR(S): Corzo, Gerardo; Gilles, Nicolas; Satake, Honoo; Villegas, Elba; Dai, Li; Nakajima, Terumi; Haupt, Joachim

CORPORATE SOURCE: Suntory Institute for Bioorganic Research, Mishima-Gun, Osaka, Shimamoto-Cho, 618-8503, Japan

SOURCE: FEBS Letters (2003), 547(1-3), 43-50

CODEN: FEBLAL; ISSN: 0014-5793

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 16 Jul 2003

AB Six peptide toxins (Magi 1-6) were isolated from the Hexathelidae spider *Macrothele gigas*. The amino acid sequences of Magi 1, 2, 5 and 6 have low similarities to the amino acid sequences of known spider toxins. The primary structure of Magi 3 is similar to the structure of the palmitoylated peptide named PlTx-II from the North American spider *Plectreurys tristis* (Plectreuridae). Moreover, the amino acid sequence of Magi 4, which was revealed by cloning of its cDNA, displays similarities to the Na<sup>+</sup> channel modifier  $\delta$ -atractoxin from the Australian spider *Atrax robustus* (Hexathelidae). Competitive binding assays using several <sup>125</sup>I-labeled peptide toxins clearly demonstrated the specific binding affinity of Magi 1-5 to site 3 of the insect sodium channel and also that of Magi 5 to site 4 of the rat sodium channel. Only Magi 6 did not compete with the scorpion toxin Lqh $\alpha$ IT in binding to site 3 despite high toxicity on lepidoptera larvae of 3.1 nmol/g. The K<sub>is</sub> of other toxins were between 50 pM for Magi 4 and 1747 nM for Magi 1. In addition, only Magi 5 binds to both site 3 in insects (K<sub>i</sub> = 267 nM) and site 4 in rat brain synaptosomes (K<sub>i</sub> = 1.2 nM), whereas it showed no affinities for either mammal binding site 3 or insect binding site 4. Magi 5

is the first spider toxin with binding affinity to site 4 of a mammalian sodium channel.

IT 600172-20-1P

RL: ADV (Adverse effect, including toxicity); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation) (amino acid sequence; distinct primary structures of major peptide toxins from venom of spider *Macrothele gigas* binding to sites 3 and 4 in sodium channel of insect and/or mammal synaptosomes)

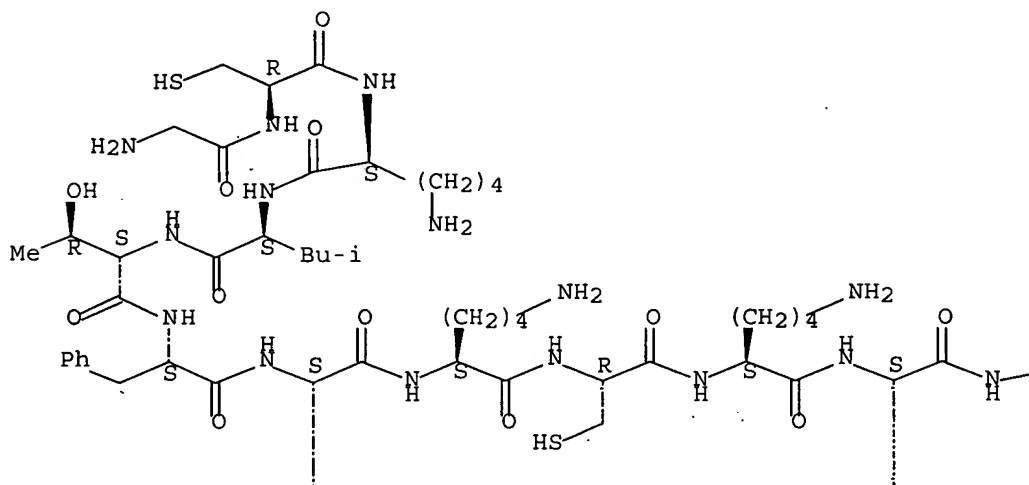
RN 600172-20-1 CAPLUS

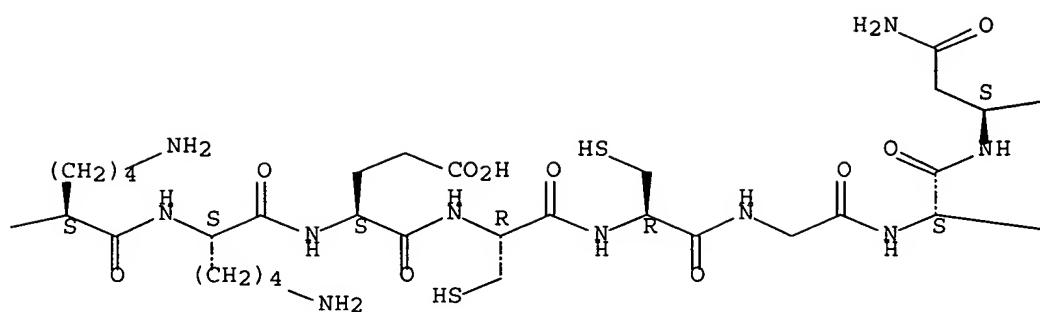
CN L-Arginine, glycyl-L-cysteinyl-L-lysyl-L-leucyl-L-threonyl-L-phenylalanyl-L-tryptophyl-L-lysyl-L-cysteinyl-L-lysyl-L-asparaginyl-L-lysyl-L-lysyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinylglycyl-L-tryptophyl-L-asparaginyl-L-alanyl-L-cysteinyl-L-alanyl-L-leucylglycyl-L-isoleucyl-L-cysteinyl-L-methionyl-L-prolyl- (9CI) (CA INDEX NAME)

SEQ 1 GCKLTFWKCK NKKECCGWNA CALGICMPR

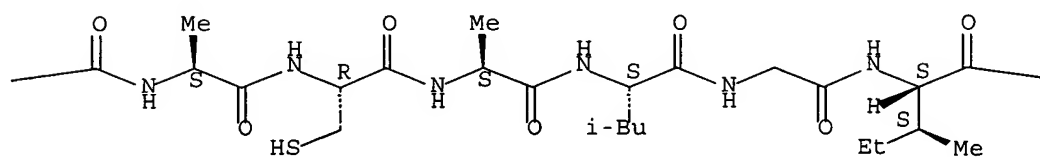
Absolute stereochemistry.

PAGE 1-A

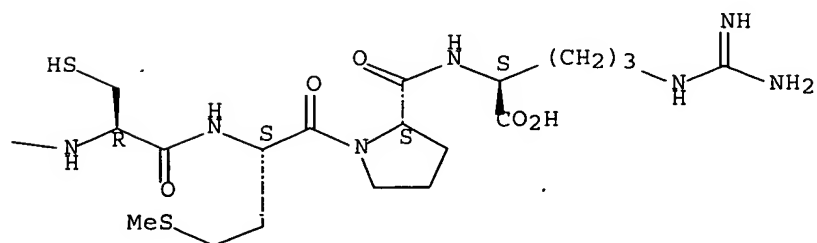




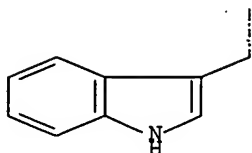
PAGE 1-C



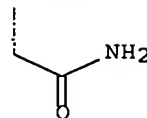
PAGE 1-D



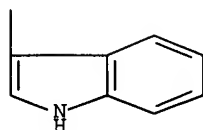




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PAGE 2-C



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 14 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:323426 CAPLUS Full-text

DOCUMENT NUMBER: 140:176535

TITLE: Purification and characterization of raventoxin-I and raventoxin-III, two neurotoxic peptides from the venom of the spider *Macrothele raveni*

AUTHOR(S): Zeng, Xiong-Zhi; Xiao, Qiao-Bin; Liang, Song-Ping

CORPORATE SOURCE: College of Life Sciences, Department of Biology, Hunan Normal University, Hunan, 410081, Peop. Rep. China

SOURCE: Toxicon (2003), 41(6), 651-656

CODEN: TOXIA6; ISSN: 0041-0101

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 28 Apr 2003

AB The spider *Macrothele raveni* was recently identified as a new species of Genus *Macrothele*. The crude venom from *M. raveni* was found to be neurotoxic to mice and the LD50 of the crude venom in mice was 2.852 mg/kg. Two neurotoxic peptides, raventoxin-I and raventoxin-III, were isolated from the crude venom by ion-exchange and reverse phase high performance liquid chromatog. Raventoxin-I was the most abundant toxic component in the venom, while raventoxin-III was a lower abundant component. Both toxins can kill mice and block neuromuscular transmission in an isolated mouse phrenic nerve diaphragm preparation, but have no effect on cockroaches. The LD50 of raventoxin-I in mice is 0.772 mg/kg. The complete amino acid sequences of raventoxin-I and raventoxin-III were determined and found to consist of 43 and 29 amino acid residues, resp. It was determined by mass spectrometry that all Cys residues from raventoxin-I and raventoxin-III are involved in disulfide bonds. Raventoxin-III showed no significant sequence homol. with any presently known neurotoxins in the protein/DNA databases, while raventoxin-I has limited sequence identity with  $\delta$ -AcTx-Hv1 and  $\delta$ -AcTx-Ar1, which target both mammalian and insect sodium channels. Both raventoxin-I and raventoxin-III only work on vertebrates, but not on insects. Moreover, raventoxin-I could exert an effect

of first exciting and then inhibiting the contraction of mouse diaphragm muscle caused by elec. stimulating the phrenic nerve, but ranvatoxin-III could not.

IT 600172-20-1P, Raventoxin III

RL: ADV (Adverse effect, including toxicity); NPO (Natural product occurrence); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(amino acid sequence; purification and characterization of raventoxin-I and raventoxin-III from venom of spider *Macrothele raveni* neurotoxic in mouse, but not cockroach)

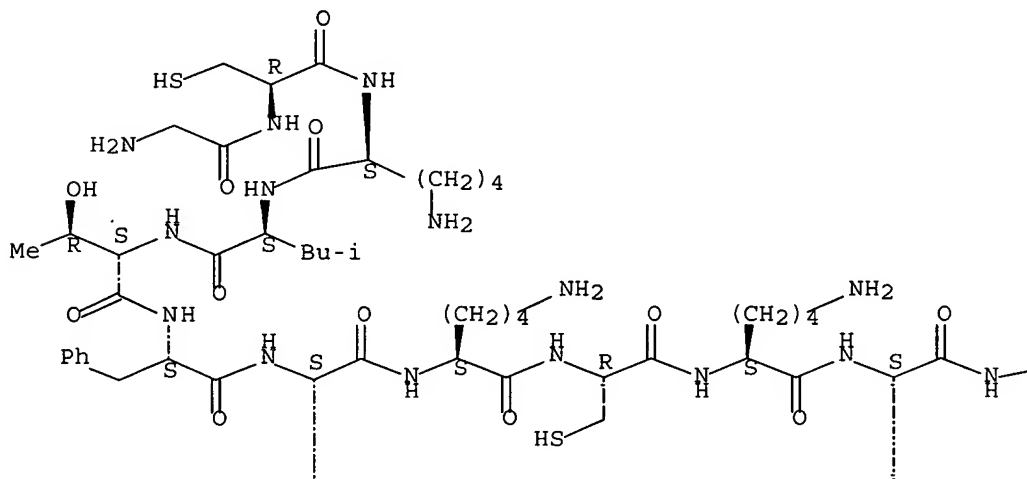
RN 600172-20-1 CAPLUS

CN L-Arginine, glycyl-L-cysteinyl-L-lysyl-L-leucyl-L-threonyl-L-phenylalanyl-L-tryptophyl-L-lysyl-L-cysteinyl-L-lysyl-L-asparaginyl-L-lysyl-L-lysyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinylglycyl-L-tryptophyl-L-asparaginyl-L-alanyl-L-cysteinyl-L-alanyl-L-leucylglycyl-L-isoleucyl-L-cysteinyl-L-methionyl-L-prolyl- (9CI) (CA INDEX NAME)

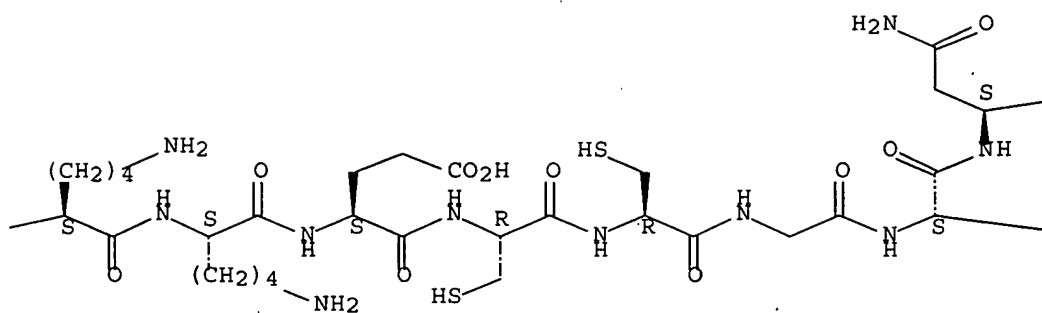
SEQ 1 GCKLTFWKCK NKKECCGWNA CALGICMPR

Absolute stereochemistry.

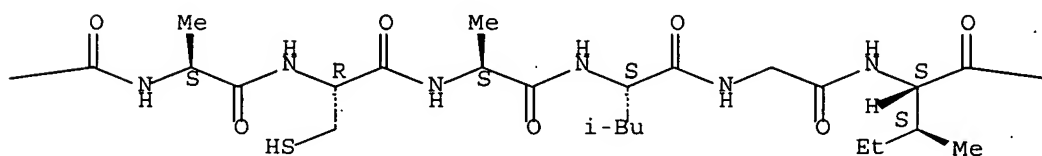
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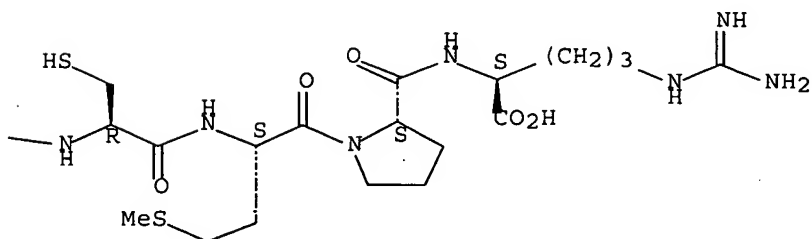
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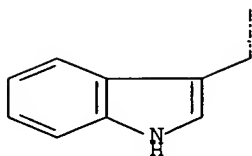


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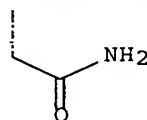


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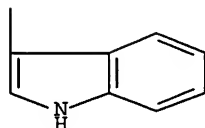




PAGE 2-A



PAGE 2-C



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 15 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:275810 CAPLUS Full-text

DOCUMENT NUMBER: 139:64688

TITLE: A Novel Conotoxin from *Conus betulinus*,  
 $\kappa$ -BtX, Unique in Cysteine Pattern and in  
 Function as a Specific BK Channel Modulator

AUTHOR(S): Fan, Chong-Xu; Chen, Xiao-Ke; Zhang, Chen; Wang,  
 Li-Xiu; Duan, Kai-Lai; He, Lin-Lin; Cao, Ying; Liu,  
 Shang-Yi; Zhong, Ming-Nai; Ulens, Chris; Tytgat, Jan;  
 Chen, Ji-Sheng; Chi, Cheng-Wu; Zhou, Zhuan

CORPORATE SOURCE: Research Institute of Pharmaceutical Chemistry,  
 Beijing, 102205, Peop. Rep. China

SOURCE: Journal of Biological Chemistry (2003), 278(15),  
 12624-12633

CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular  
 Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 10 Apr 2003

AB A novel conotoxin,  $\kappa$ -conotoxin ( $\kappa$ -BtX), has been purified and characterized from the venom of a worm-hunting cone snail, *Conus betulinus*. The toxin, with four disulfide bonds, shares no sequence homol. with any other conotoxins. Based on a partial amino acid sequence, its cDNA was cloned and sequenced. The deduced sequence consists of a 26-residue putative signal peptide, a 31-residue mature toxin, and a 13-residue extra peptide at the C terminus. The extra peptide is cleaved off by proteinase post-processing. All three Glu residues are  $\gamma$ -carboxylated, one of the two Pro residues is hydroxylated at position 27, and its C-terminal residue is Pro-amidated. The monoisotopic mass of the toxin is 3569.0 Da. Electrophysiol. expts. show that: (1) among voltage-gated channels,  $\kappa$ -BtX is a specific modulator of  $K^+$  channels; (2) among the  $K$  channels,  $\kappa$ -BtX specifically up-modulates the  $Ca^{2+}$ - and voltage-

sensitive BK channels (252-47%); (3) its EC50 is 0.7 nM with a single binding site (Hill = 0.88); (4) the time constant of wash-out is 8.3 s; and (5)  $\kappa$ -Btx has no effect on single channel conductance, but increases the open probability of BK channels. It is concluded that  $\kappa$ -Btx is a novel specific biotoxin against BK channels.

IT 482925-15-5P

RL: BSU (Biological study, unclassified); NPO (Natural product occurrence); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
(amino acid sequence; novel conotoxin from *Conus betulinus*,  $\kappa$ -Btx, unique in cysteine pattern and in function as specific BK channel modulator)

RN 482925-15-5 CAPLUS

CN  $\kappa$ -Conotoxin Btx (*Conus betulinus* venom gene Btx precursor) (9CI)  
(CA INDEX NAME)

SEQ 1 MMFRVTSVGC LLLVIVFLNL VVPTSACRAE GTYCENDSQC CLNECCWGGC  
51 GHPCRHPGKR SKLQEFFRQR

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 16 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:637794 CAPLUS Full-text

DOCUMENT NUMBER: 137:196930

TITLE: Novel conotoxins for use in the therapeutic regulation of ion channel function

INVENTOR(S): Olivera, Baldomero M.; McIntosh, J. Michael; Watkins, Maren; Garrett, James E.; Cruz, Lourdes J.; Grilley, Michelle; Walker, Craig S.; Shetty, Reshma; Jones, Robert M.; Schoenfeld, Robert M.

PATENT ASSIGNEE(S): Cognetix, Inc., USA; University of Utah Research Foundation

SOURCE: PCT Int. Appl., 305 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002064740	A2	20020822	WO 2002-US3887	20020211
WO 2002064740	A9	20030123		
WO 2002064740	A3	20031218		
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003109670	A1	20030612	US 2002-72602	20020211

ABSTRACT The present invention is directed to conotoxin peptides, derivs. or pharmaceutically acceptable salts thereof. The present invention is further directed to the use of this peptide, derivs. thereof and pharmaceutically acceptable salts thereof for the treatment of disorders associated with voltage-gated ion channels, voltage-gated ligand channels and/or receptors. The invention is further directed to nucleic acid sequences encoding the conotoxin peptides and encoding propeptides, as well as the propeptides.

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(amino acid sequence, **conotoxin**; novel **conotoxins**  
for use in therapeutic regulation of ion channel function)

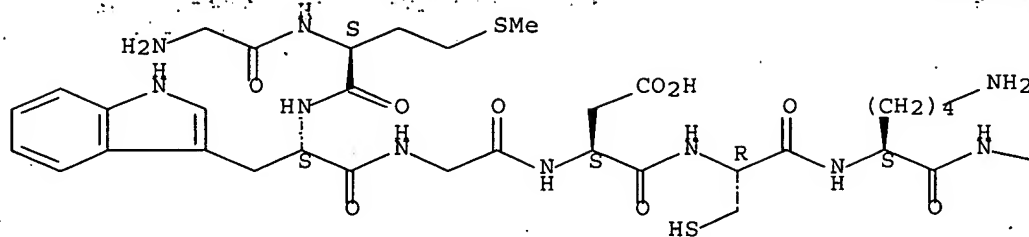
CN L-Arginine, L-tryptophyl-L-arginyl-L- $\alpha$ -glutamylglycyl-L-seryl-L-cysteinyl-L-threonyl-L-seryl-L-tryptophyl-L-leucyl-L-alanyl-L-threonyl-L-cysteinyl-L-threonyl-L-glutaminyl-L- $\alpha$ -aspartyl-L-glutaminyl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-threonyl-L- $\alpha$ -aspartyl-L-valyl-L-cysteinyl-L-tyrosyl-L-lysyl-L-arginyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-cysteinyl-L-alanyl-L-leucyl-L-tryptophyl-L- $\alpha$ -aspartyl-L- $\alpha$ -aspartyl- (9CI) (CA INDEX NAME)

CN L-Tryptophan, L-tryptophyl-L-tryptophyl-L-arginyl-L-tryptophylglycylglycyl-L-cysteinyl-L-methionyl-L-alanyl-L-tryptophyl-L-phenylalanylglycyl-L-lysyl-L-cysteinyl-L-seryl-L-lysyl-L- $\alpha$ -aspartyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-asparaginyl-L-seryl-L-cysteinyl-L- $\alpha$ -aspartyl-L-isoleucyl-L-threonyl-L-arginyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-leucyl-L-methionyl-L-arginyl-L-phenylalanyl-L-prolyl-L-prolyl-L- $\alpha$ -aspartyl- (9CI) (CA INDEX NAME)

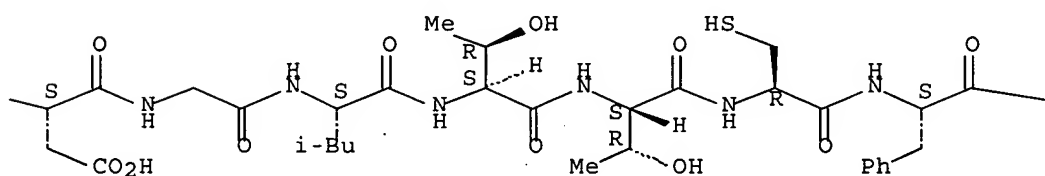
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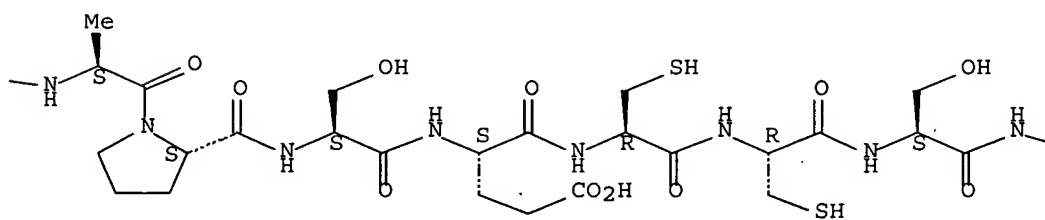
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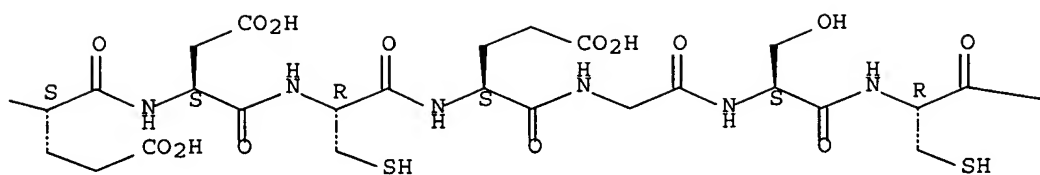


PAGE 1-B

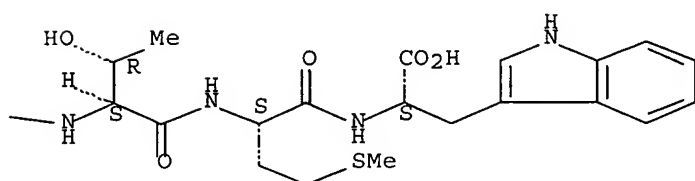


PAGE 1-C





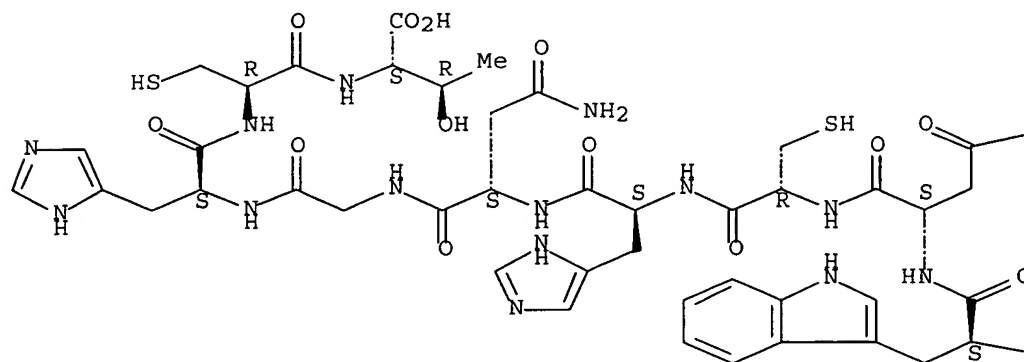
PAGE 1-E



CN L-Threonine, L-leucyl-L-cysteinyl-L-prolyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-threonyl-L- $\alpha$ -glutamyl-L-prolyl-L-cysteinyl-L-seryl-L-histidyl-L-alanyl-L-histidyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-tryptophyl-L-asparaginyl-L-cysteinyl-L-histidyl-L-asparaginylglycyl-L-histidyl-L-cysteinyl- (9CI) (CA INDEX NAME)

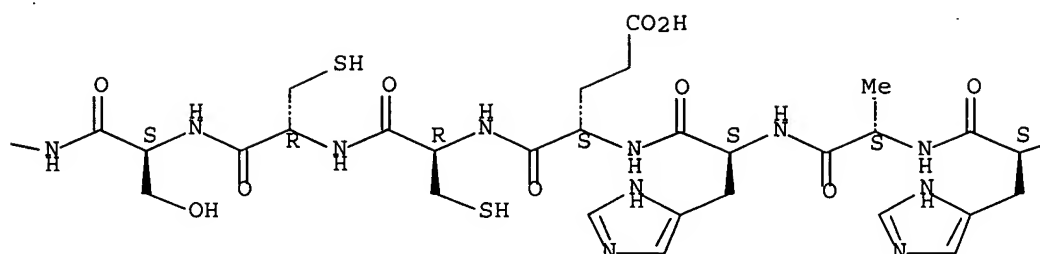
Absolute stereochemistry.

PAGE 1-A

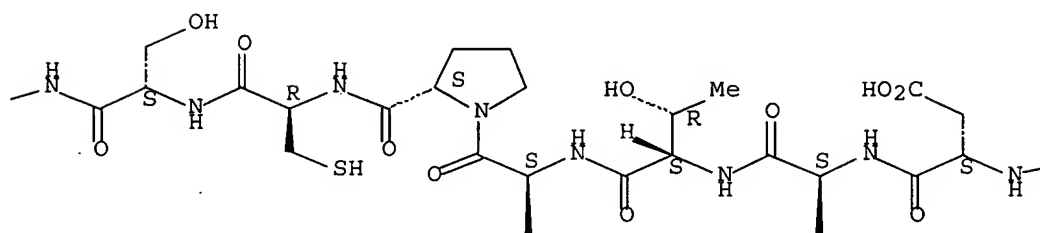


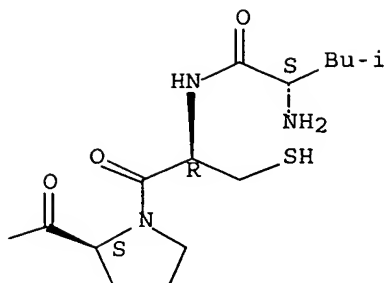


PAGE 1-B

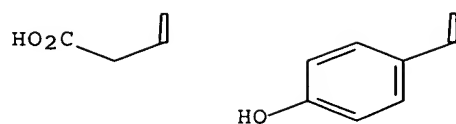
—NH<sub>2</sub>

PAGE 1-C





PAGE 2 - C

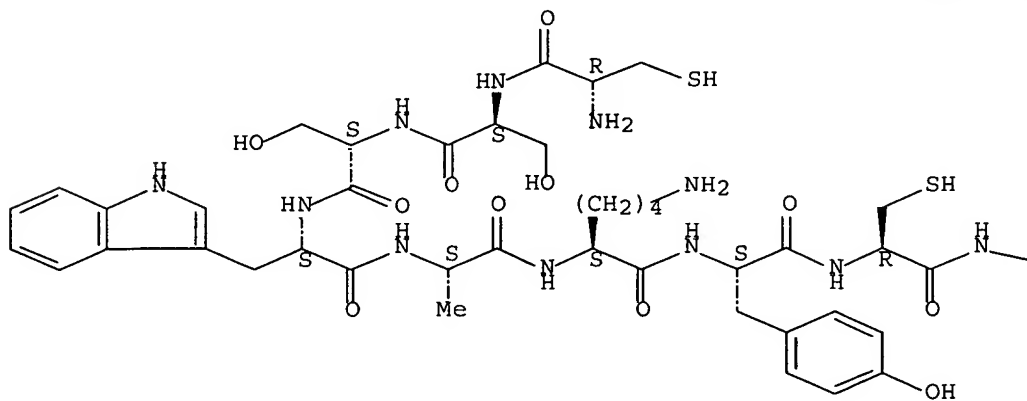


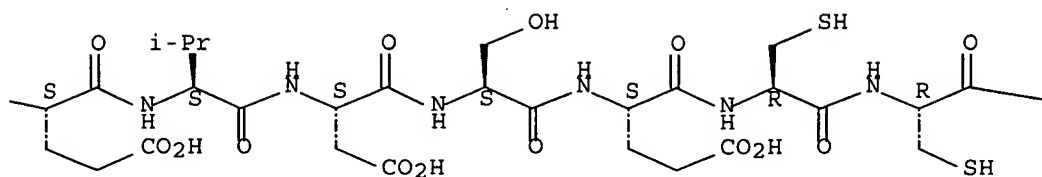
RN 452055-78-6 CAPLUS

CN L-Tryptophan, L-cysteinyl-L-seryl-L-seryl-L-tryptophyl-L-alanyl-L-lysyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-valyl-L- $\alpha$ -aspartyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L- $\alpha$ -glutamyl-L-glutamyl-L-cysteinyl-L-valyl-L-arginyl-L-seryl-L-tyrosyl-L-cysteinyl-L-alanyl-L-methionyl- (9CI) (CA INDEX NAME)

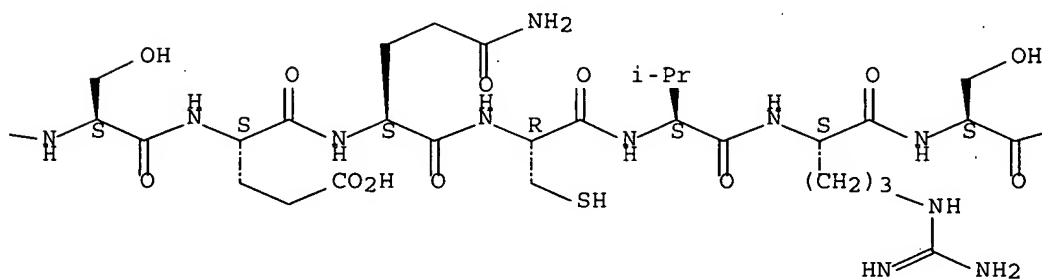
Absolute stereochemistry.

PAGE 1-A

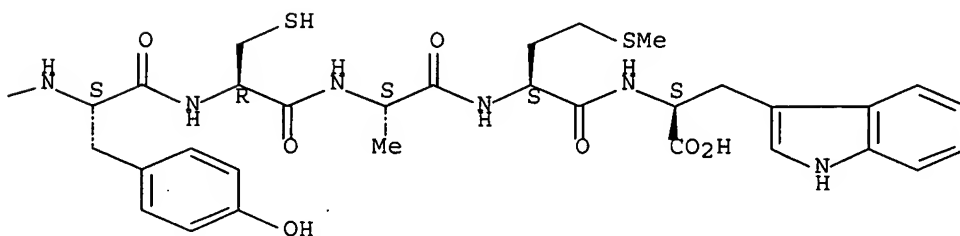




PAGE 1-C



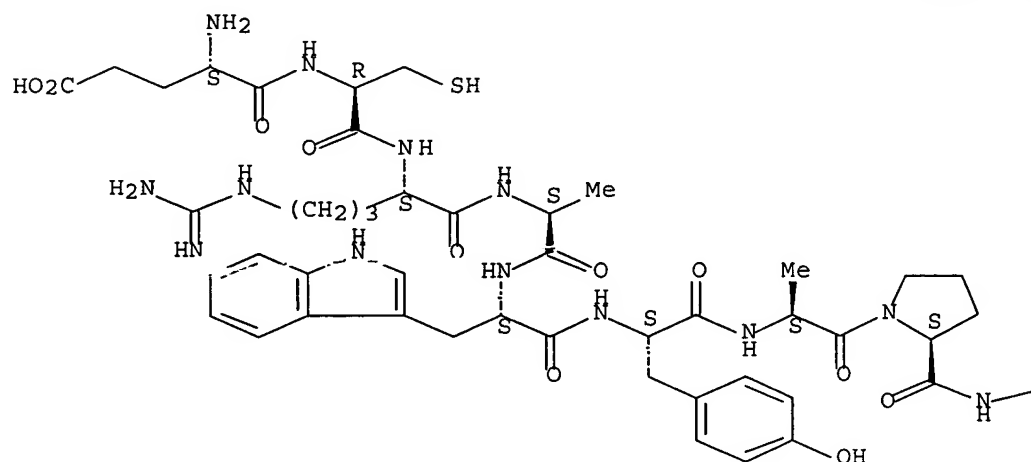
PAGE 1-D



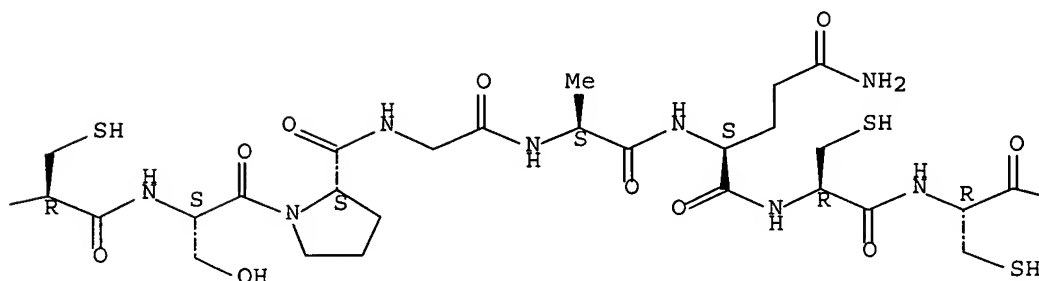
L-Leucine, L- $\alpha$ -glutamyl-L-cysteinyl-L-arginyl-L-alanyl-L-tyrosyl-L-  
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 glutaminyl-L-cysteinyl-L-cysteinyl-L-seryl-L-leucyl-L-leucyl-L-methionyl-L-  
 cysteinyl-L-seryl-L-lysyl-L-alanyl-L-threonyl-L-seryl-L-arginyl-L-  
 cysteinyl-L-isoleucyl-L-leucyl-L-alanyl- (9CI) (CA INDEX NAME)

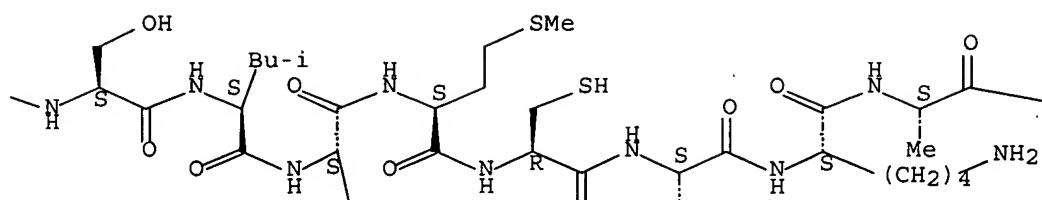
Absolute stereochemistry.

PAGE 1-A

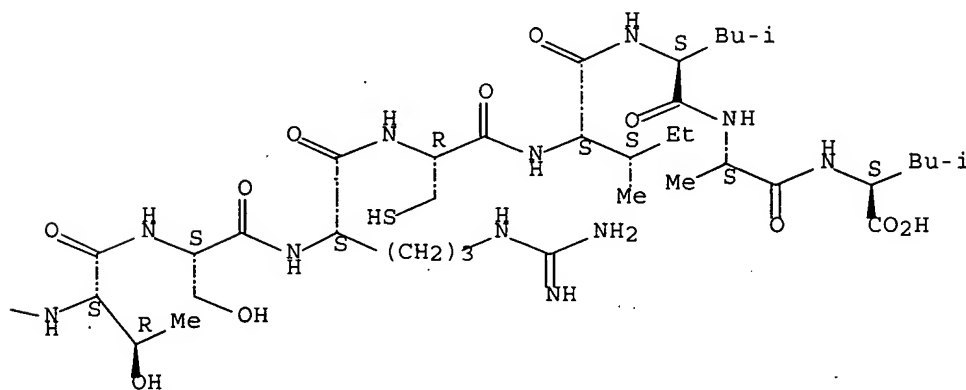


PAGE 1-B





PAGE 1-D



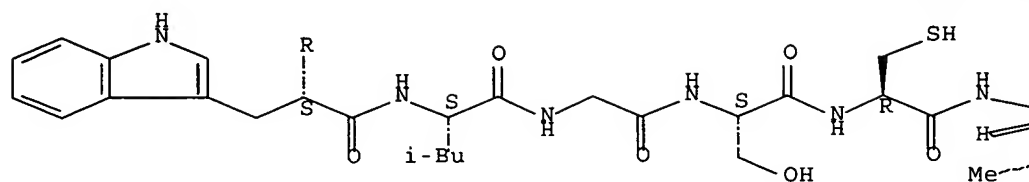
PAGE 2-C



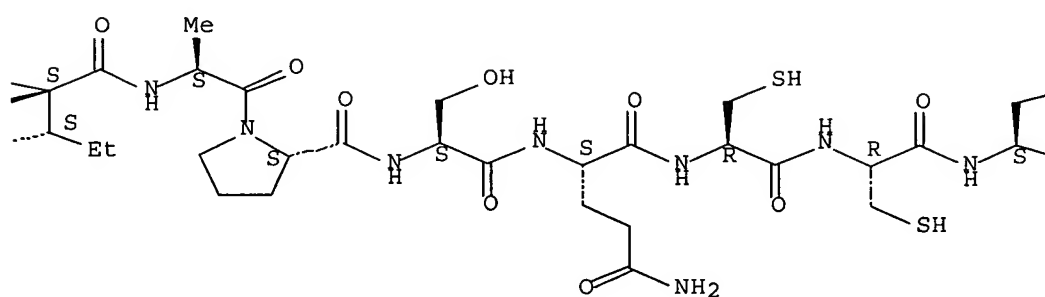
RN 452055-81-1 CAPLUS  
 CN L-Arginine, L- $\alpha$ -aspartyl-L-cysteinyl-L-tyrosyl-L-seryl-L-tryptophyl-L-leucylglycyl-L-seryl-L-cysteinyl-L-isoleucyl-L-alanyl-L-prolyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-seryl-L- $\alpha$ -glutamyl-L-valyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-tyrosyl-L-cysteinyl-L-arginyl-L-leucyl-L-tryptophyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

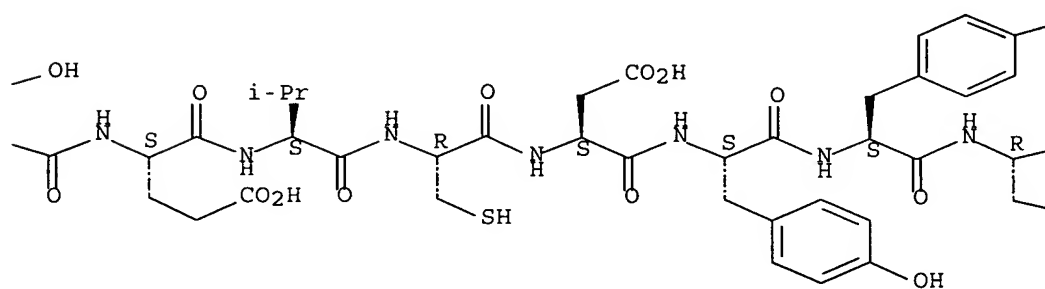
PAGE 1-A



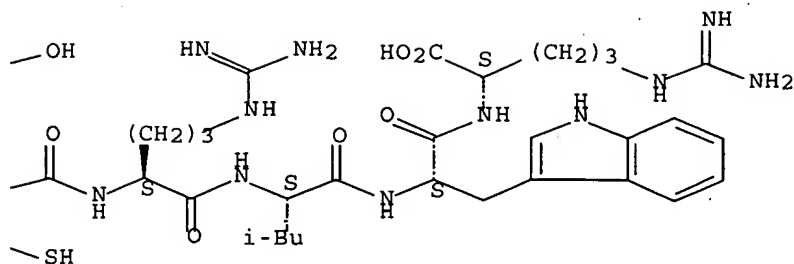
PAGE 1-B



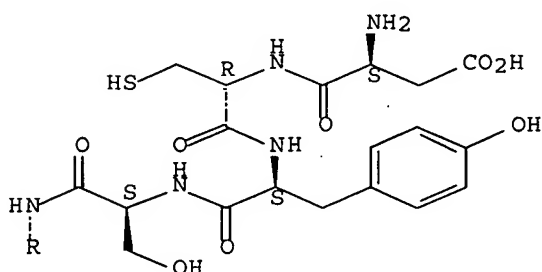
PAGE 1-C



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PAGE 2-A



IT 451528-15-7 451528-18-0 451528-19-1  
 451528-24-8 451528-30-6 451528-33-9  
 451530-59-9 451530-60-2

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
 (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (amino acid sequence; novel conotoxins for use in therapeutic  
 regulation of ion channel function)

RN 451528-15-7 CAPLUS

CN Conotoxin Af6.1 (Conus ammiralis precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLIILLLV AAVLMSTQAL VERAGENRSK ENINFLLRK RAADRGMWGD  
 51 CKDGLTTCFA PSECCSEDCE GSCTMW

RN 451528-18-0 CAPLUS

CN Conotoxin Af6.2 (Conus ammiralis precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL PQGGGEKRPR ENIRFLSKRK TNAERWREGS  
 51 CTSWLATCTQ DQQCCTDVCY KRDYCALWDD R

RN 451528-19-1 CAPLUS

CN Peptide, (Trp-Tyr-Xaa-Gly-Ser-Cys-Thr-Ser-Trp-Leu-Ala-Thr-Cys-Thr-Gln-Asp-  
 Gln-Gln-Cys-Cys-Thr-Asp-Val-Cys-Tyr-Lys-Arg-Asp-Tyr-Cys-Ala-Leu-Trp-Asp-  
 Asp-Arg) (9CI) (CA INDEX NAME)

SEQ 1 WYXGSCTSWL ATCTQDQCC<sup>1</sup> TDVCYKRDYC ALWDDR

RN 451528-24-8 CAPLUS

CN Conotoxin Af6.4 (Conus ammiralis precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLLV AALLLSIQAV NQEKHQRAKI NLLSKRKPPA ERWWRWGGCM  
51 AWF GKCSKDS ECCSNSCDIT RCELMRFPPD W

RN 451528-30-6 CAPLUS

CN Conotoxin Af6.6 (Conus ammiralis precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLTILLLV AAVLMSTQAV LQEKRPKEKI KFLSKKKTDA EKQQKRLCPD  
51 YTEPCSHAHE CCSWNCHNGH CTG

RN 451528-33-9 CAPLUS

CN Conotoxin Af6.7 (Conus ammiralis precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLLV AAVLMSTQAM FQGDGEKSRK AEINFSKTRN LARNKQKRCS  
51 SWAKYCEVDS ECCSEQCVRS YCAMW

RN 451530-59-9 CAPLUS

CN L-Arginine, L-leucyl-L-tryptophyl-L-seryl-L- $\alpha$ -aspartyl-L-cysteinyl-L-tyrosyl-L-seryl-L-tryptophyl-L-leucylglycyl-L-seryl-L-cysteinyl-L-isoleucyl-L-alanyl-L-prolyl-L-seryl-L-glutaminy-L-cysteinyl-L-cysteinyl-L-seryl-L- $\alpha$ -glutamyl-L-valyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-tyrosyl-L-cysteinyl-L-arginyl-L-leucyl-L-tryptophyl- (9CI) (CA INDEX NAME)

SEQ 1 LWSDCYSWLG SCIAPSQCCS EVCDYYCRLW R

RN 451530-60-2 CAPLUS

CN Peptide, (Asp-Cys-Xaa-Ser-Xaa-Leu-Gly-Ser-Cys-Ile-Ala-Xaa-Ser-Gln-Cys-Cys-Ser-Xaa-Val-Cys-Asp-Xaa-Xaa-Cys-Arg-Leu-Xaa-Arg) (9CI) (CA INDEX NAME)

SEQ 1 DCXSXLGSCI AXSQCCSXVC DXXCRLXR

L17 ANSWER 17 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:173544 CAPLUS Full-text

DOCUMENT NUMBER: 137:120413

TITLE: Sequence and Organization of the Mamestra configurata Nucleopolyhedrovirus Genome

AUTHOR(S): Li, Qianjun; Donly, Cam; Li, Lulin; Willis, Leslie G.;



CORPORATE SOURCE: Theilmann, David A.; Erlandson, Martin  
 Saskatoon Research Centre, Agriculture and Agri-Food  
 Canada, Saskatoon, SK, S7N 0X2, Can.  
 SOURCE: Virology (2002), 294(1), 106-121  
 CODEN: VIRLAX; ISSN: 0042-6822  
 PUBLISHER: Academic Press  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

ED Entered STN: 11 Mar 2002

AB The nucleotide sequence of the genome of the nucleopolyhedrovirus (NPV) from *Mamestra configurata* (MaconPV, isolate 90/2), a group II NPV, was determined and analyzed. The MacoNPV DNA genome consists of 155,060 bp and has an overall G+C content of 41.7%. Computer-assisted anal. predicted 169 open reading frames (ORFs) of 150 nucleotides or greater that showed minimal overlap. BLAST searches and comparisons with completely sequenced baculoviruses indicated that there were 66 ORFs conserved among the nine baculoviruses compared and an addnl. 17 ORFs were conserved among the NPVs. The gene content and gene arrangement in MacoNPV were most similar to those of SemNPV, including two putative odv-e66 and p26 gene homologues. However, in contrast to SemNPV, 8 ORFs with homol. to baculovirus repeat ORFs (bro) and single copies of enhancin and conotoxin-like protein ORFs were found in MacoNPV. The MacoNPV genome contained four homologous regions, each with 10 to 17 repeated sequences. Each repeat was 60 to 86 nucleotides in length and contained an approx. 43-bp-long imperfect palindrome. There were 13 ORFs unique to MacoNPV, ranging from a small ORF of 196 bp to larger ORFs of up to 1047 bp, and many of these contained typical early and late baculovirus consensus promoters. (c) 2002 Academic Press.

IT 443802-91-3

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)

(amino acid sequence; sequence and organization of *Mamestra configurata*  
 nucleopolyhedrovirus genome)

RN 443802-91-3 CAPLUS

CN L-Arginine, L-methionyl-L-histidyl-L-isoleucyl-L-lysyl-L-seryl-L-isoleucyl-  
 L-leucyl-L-leucyl-L-phenylalanyl-L-valyl-L-isoleucyl-L-leucyl-L-alanyl-L-  
 alanyl-L-alanyl-L-asparaginy-L-tyrosylglycyl-L-alanyl-L-methionyl-L-  
 alanyl-L-cysteinyl-L-threonyl-L- $\alpha$ -aspartyl-L-threonylglycyl-L-  
 arginyl-L-asparaginy-L-cysteinyl-L-lysyl-L-tyrosyl-L-seryl-L-tyrosyl-L-  
 $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-alanyl-L-  
 cysteinyl-L-seryl-L-alanyl-L-alanyl-L-phenylalanylglycyl-L-phenylalanyl-L-  
 cysteinyl-L-leucyl-L-histidyl- (9CI) (CA INDEX NAME)

SEQ 1 MHIKSILLFV ILAAANYGAM ACTDTGRNCK YSYECCSGAC SAAFGFCLHR

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 18 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:89785 CAPLUS Full-text

DOCUMENT NUMBER: 136:146439

TITLE: Protein and cDNA sequences of novel  $\omega$ -  
 conopeptides from crude *Conus* venom extracts  
 and their therapeutic uses

INVENTOR(S): Olivera, Baldomero M.; McIntosh, J. Michael; Watkins,  
 Maren; Garrett, James E.; Shon, Ki-Joon; Jacobsen,  
 Richard; Jones, Robert M.; Cartier, G. Edward

PATENT ASSIGNMENT(S): University of Utah Research Foundation, USA; Cognetix, Inc.  
 SOURCE: PCT Int. Appl., 195 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002007675	A2	20020131	WO 2001-US23041	20010723
WO 2002007675	A3	20030306		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2416287	A1	20020131	CA 2001-2416287	20010723
AU 2001078982	A5	20020205	AU 2001-78982	20010723
EP 1311283	A2	20030521	EP 2001-957214	20010723
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US 2003119731	A1	20030626	US 2001-910082	20010723
JP 2004512025	T	20040422	JP 2002-513413	20010723
US 2004132663	A1	20040708	US 2004-765926	20040129
PRIORITY APPLN. INFO.:				
			US 2000-219616P	P 20000721
			US 2001-265888P	P 20010205
			US 2001-910082	A1 20010723
			WO 2001-US23041	W 20010723

ED Entered STN: 01 Feb 2002

AB The invention provides protein and cDNA sequences of 203 novel  $\omega$ -conotoxin fragments identified from crude Conus venom exts. The invention relates to  $\omega$ -conopeptides, derivs. or pharmaceutically acceptable salts thereof, and uses thereof, including the treatment of neurol. and psychiatric disorders, such as anticonvulsant agents, as neuroprotective agents, as cardiovascular agents or for the management of pain. The invention further relates to nucleic acid sequences encoding the conopeptides and encoding propeptides, as well as the propeptides.

IT 393875-52-0,  $\omega$ -Conotoxin Ra6.1 393875-66-6  
 ,  $\omega$ -Conotoxin Bu6.2 393876-10-3,  $\omega$ -Conotoxin R6.1 393876-11-4,  $\omega$ -Conotoxin R6.2 393876-12-5,  $\omega$ -Conotoxin Ra6.2 393876-13-6,  $\omega$ -Conotoxin Ra6.3 393876-25-0  
 ,  $\omega$ -Conotoxin Vi6.1 393885-42-2  
 393885-43-3 393887-01-9 393887-04-2  
 393887-10-0 393887-12-2 393887-13-3  
 393887-15-5 393887-16-6 393887-60-0  
 393887-61-1

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(amino acid sequence; protein and cDNA sequences of novel  $\omega$ -conopeptides from crude Conus venom exts. and their therapeutic uses)

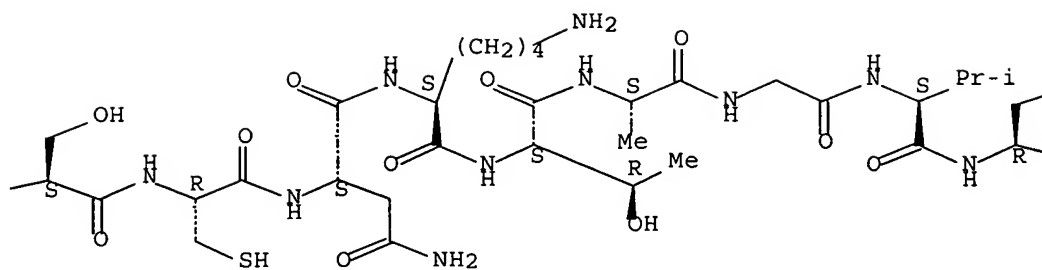
RN 393875-52-0 CAPLUS

Absolute stereochemistry.

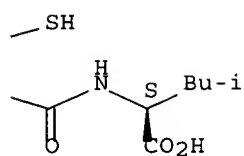
The chemical structure shows a linear peptide chain with the following sequence of residues (from left to right):

- Residue 1:** A thiol group (SH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 2:** A hydroxyl group (OH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 3:** A thiol group (SH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 4:** A hydroxyl group (OH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 5:** A thiol group (SH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 6:** A hydroxyl group (OH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 7:** A thiol group (SH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 8:** A hydroxyl group (OH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 9:** A thiol group (SH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.
- Residue 10:** A hydroxyl group (OH) attached to a methylene group (CH<sub>2</sub>), which is part of a side chain.

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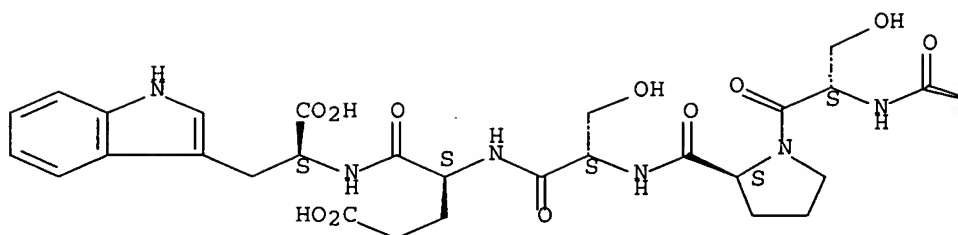


RN 393875-66-6 CAPLUS

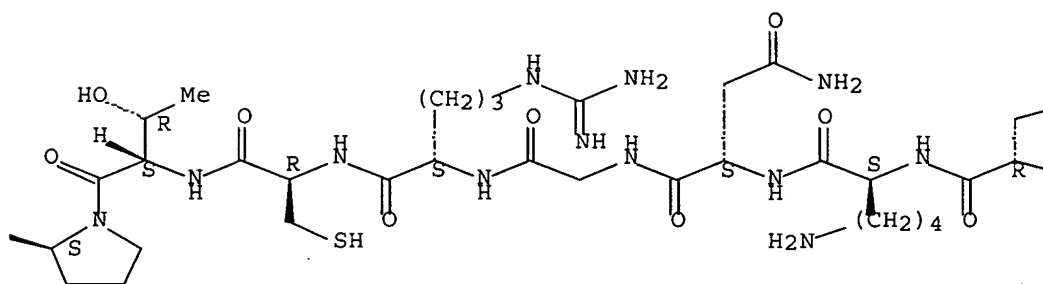
CN L-Tryptophan, L-cysteinyl-L-isoleucyl-L-threonyl-L-prolyl-glycyl-L-threonyl-L-arginyl-L-cysteinyl-L-lysyl-L-valyl-L-prolyl-L-seryl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-arginyl-glycyl-L-prolyl-L-cysteinyl-L-lysyl-L-asparaginyl-glycyl-L-arginyl-L-cysteinyl-L-threonyl-L-prolyl-L-seryl-L-prolyl-L-seryl-L- $\alpha$ -glutamyl- (9CI) (CA INDEX NAME)

SEQ 1 CITPGTRCKV PSQCCRGPK NGRCTPSPSE W

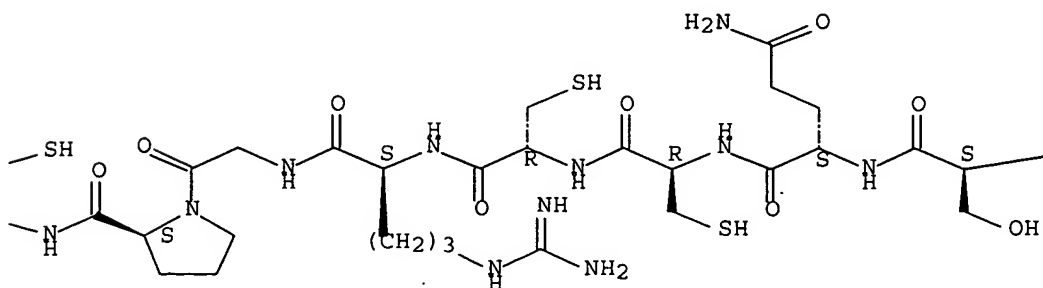
Absolute stereochemistry.



PAGE 1-B

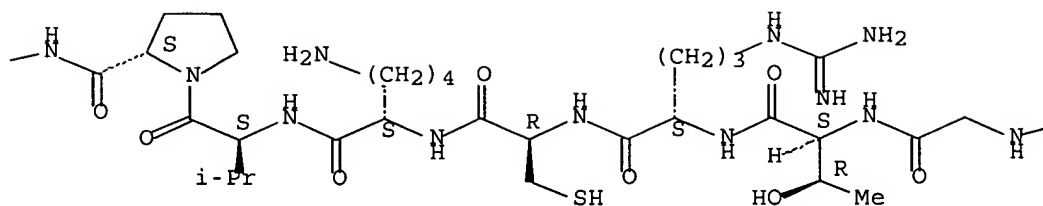


PAGE 1-C

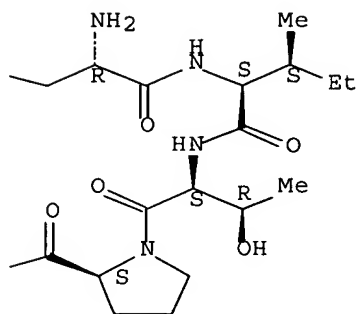


PAGE 1-D

HS—



PAGE 1-E

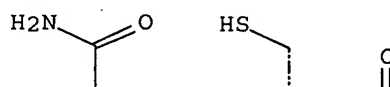


RN 393876-10-3 CAPLUS

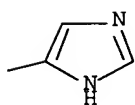
CN L-Cysteine, L-histidylglycyl-L-cysteinyl-L-lysyl-L-prolyl-L-leucyl-L-lysyl-L-arginyl-L-arginyl-L-cysteinyl-L-phenylalanyl-L-asparaginyl-L- $\alpha$ -aspartyl-L-lysyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-lysyl-L-phenylalanyl-L-cysteinyl-L-asparaginyl-L-seryl-L-valyl-L-arginyl-L-lysyl-L-glutamyl- (9CI) (CA INDEX NAME)

SEQ 1 HGCKPLKRRC FNDKECCSKF CNSVRKQC

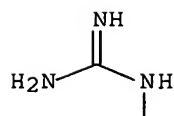
Absolute stereochemistry.



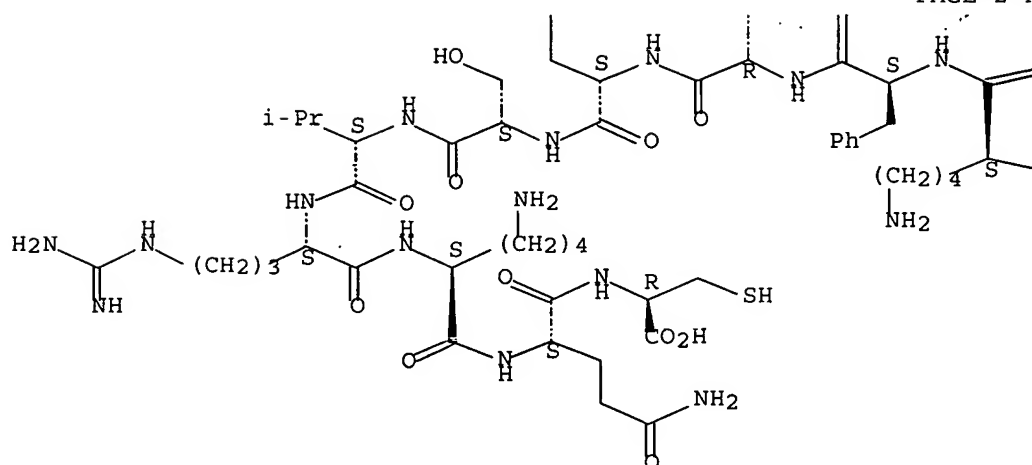
PAGE 1-B



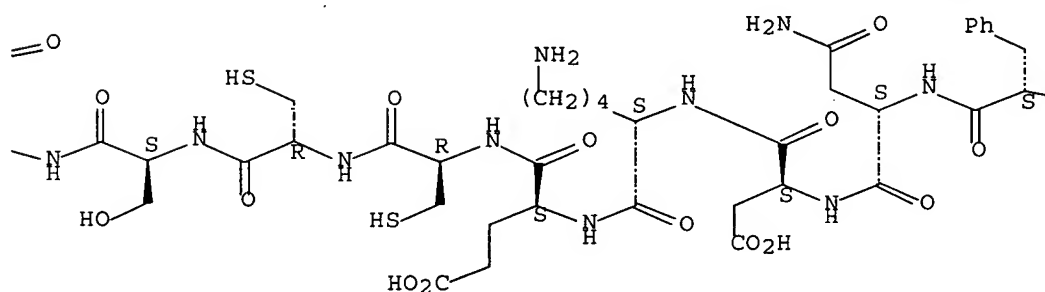
PAGE 1-C



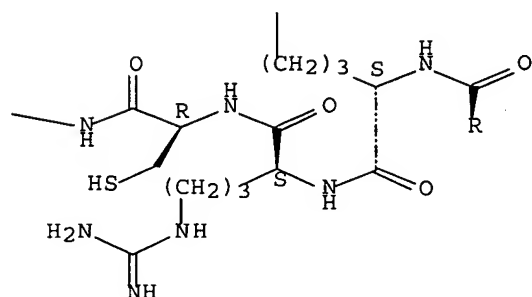
PAGE 2-A



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RN 393876-11-4 CAPLUS

CN L-Cysteine, L-arginylglycyl-L-cysteinyl-L-lysyl-L-prolyl-L-leucyl-L-lysyl-L-arginyl-L-arginyl-L-cysteinyl-L-phenylalanyl-L-asparaginyl-L- $\alpha$ -aspartyl-L-lysyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-L-lysyl-L-phenylalanyl-L-cysteinyl-L-asparaginyl-L-seryl-L-valyl-L-arginyl-L-



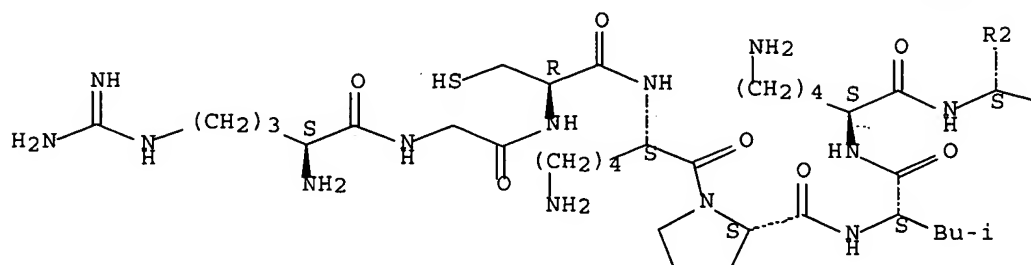
asparaginyl-L-glutaminylo(9CI)-em(CA: INDEX NAME)

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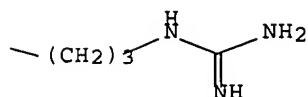
SEQ 1 RGCKPLKRRC FNDKECCSKF CNSVRNQC

Absolute stereochemistry.

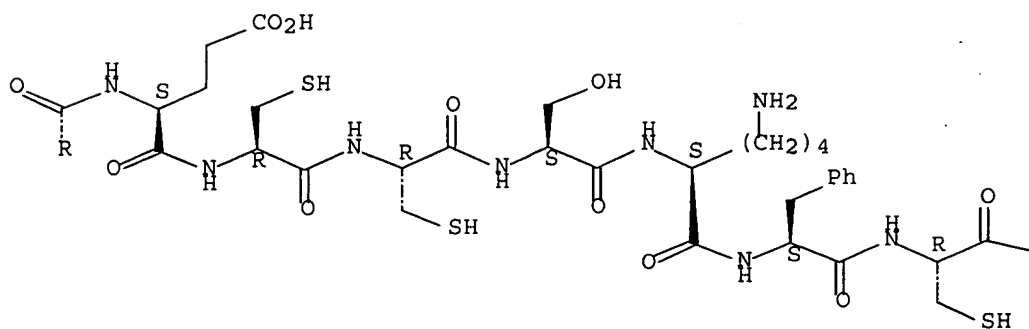
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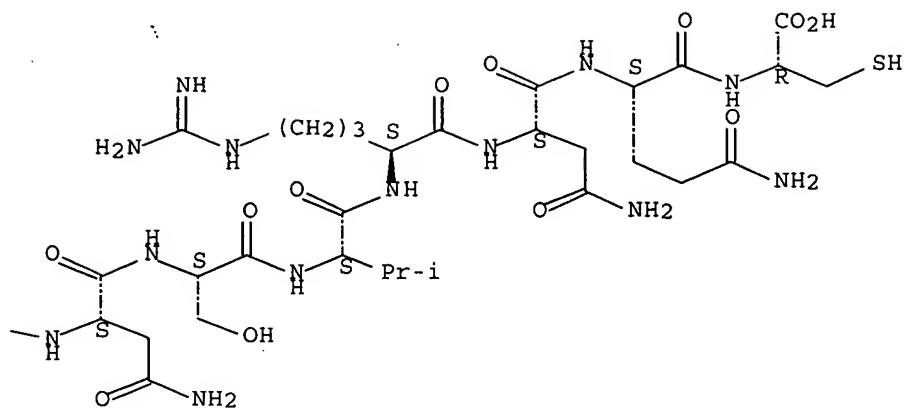
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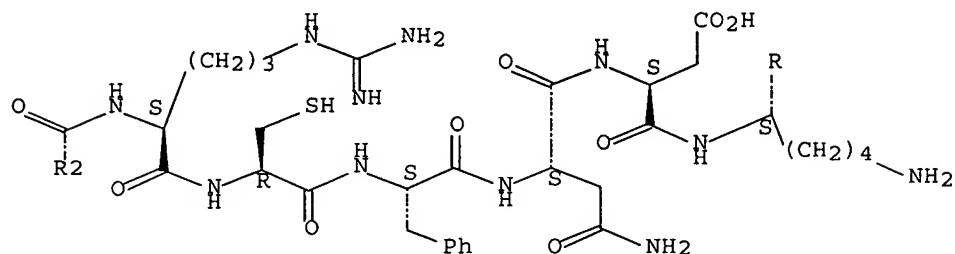
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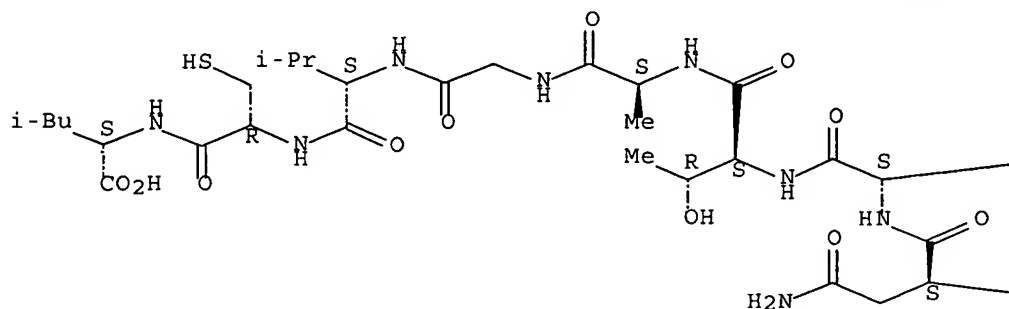
RN 393876-12-5 CAPLUS

CN L-Leucine, L-cysteinyl-L-asparaginyl-L-alanyl-L-arginyl-L-asparaginyl-L-serylglycyl-L-cysteinyl-L-seryl-L-glutaminyl-L-histidyl-L-prolyl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-seryl-L-cysteinyl-L-asparaginyl-L-lysyl-L-threonyl-L-alanylglycyl-L-valyl-L-cysteinyl- (9CI)  
(CA INDEX NAME)

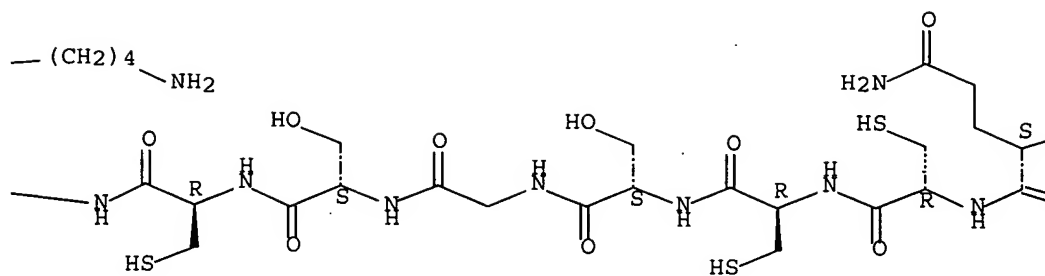
SEQ 1 CNARNSGCSQ HPQCCSGSCN KTAGVCL

Absolute stereochemistry.

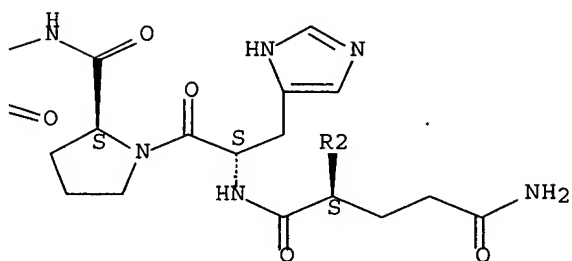
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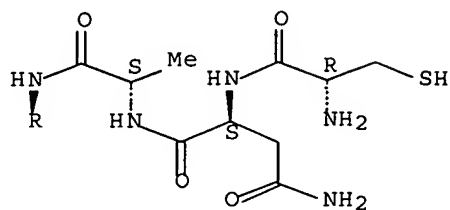
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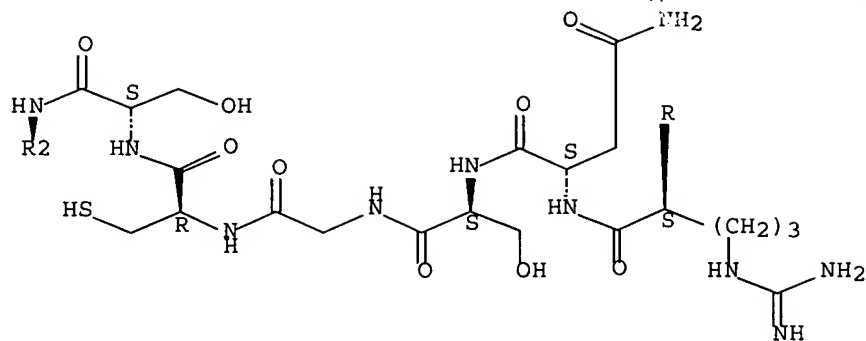
PAGE 1-C



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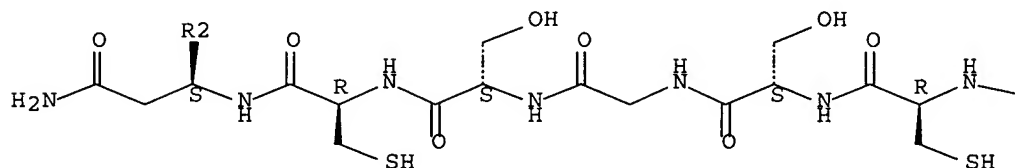
RN 393876-13-6 CAPLUS

CN L-Leucine, L-cysteinyl-L-asparaginyl-L-alanyl-L-arginyl-L-asparaginyl-L-serylglycyl-L-cysteinyl-L-seryl-L-glutaminy-L-histidyl-L-prolyl-L-glutaminy-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-seryl-L-cysteinyl-L-asparaginyl-L-lysyl-L-threonyl-L-leucylglycyl-L-valyl-L-cysteinyl- (9CI)  
(CA INDEX NAME)

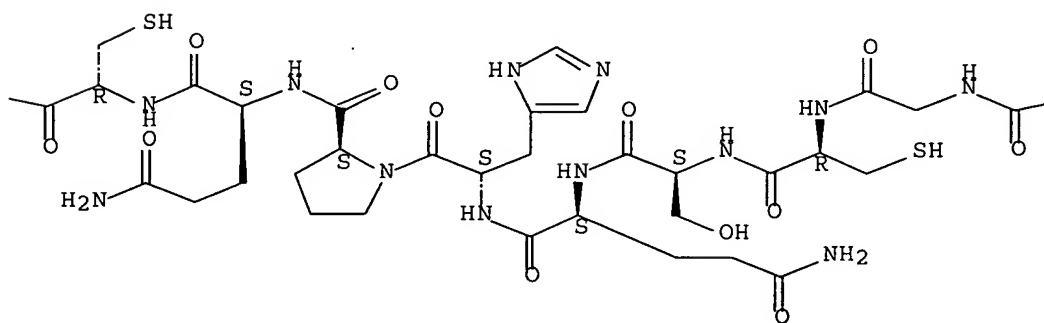
SEQ 1 CNARNSGCSQ HPQCCSGSCN KTLGVCL

Absolute stereochemistry.

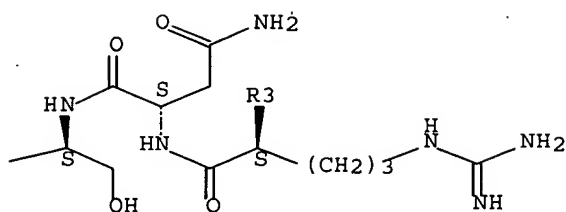
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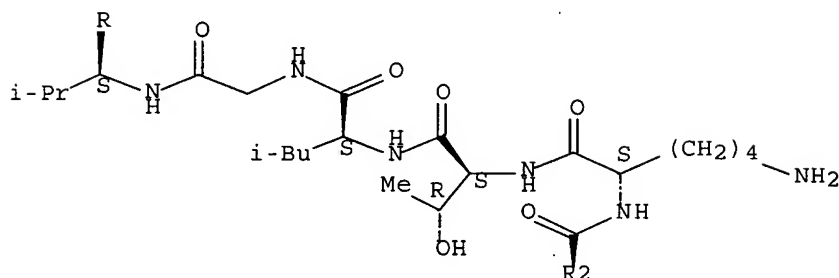
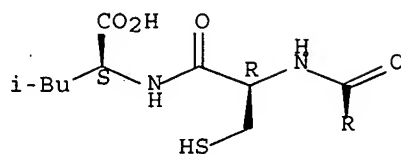
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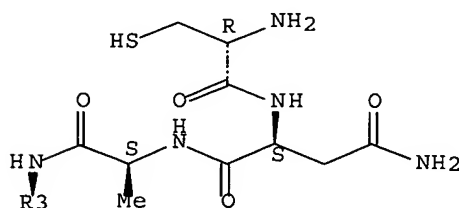
PAGE 1-C



PAGE 2-A



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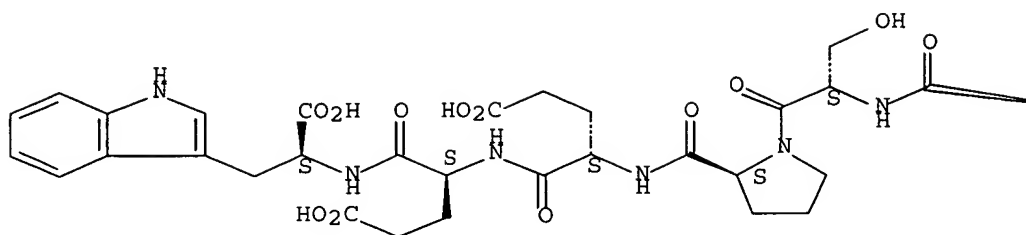
RN 393876-25-0 CAPLUS

CN L-Tryptophan, L-cysteinyl-L-isoleucyl-L-threonyl-L-leucylglycyl-L-threonyl-L-arginyl-L-cysteinyl-L-lysyl-L-valyl-L-prolyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-arginyl-L-seryl-L-seryl-L-cysteinyl-L-lysyl-L-asparaginylglycyl-L-arginyl-L-cysteinyl-L-alanyl-L-prolyl-L-seryl-L-prolyl-L-α-glutamyl-L-α-glutamyl- (9CI) (CA INDEX NAME)

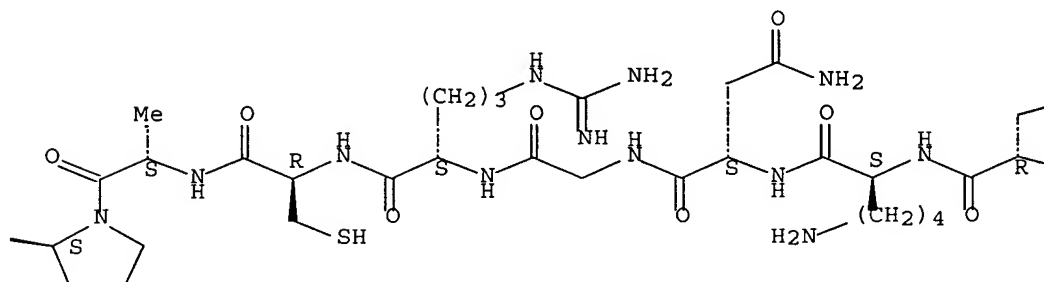
SEQ 1 CITLGTRCKV PSQCCRSSCK NGRCAPSPEE W

Absolute stereochemistry.

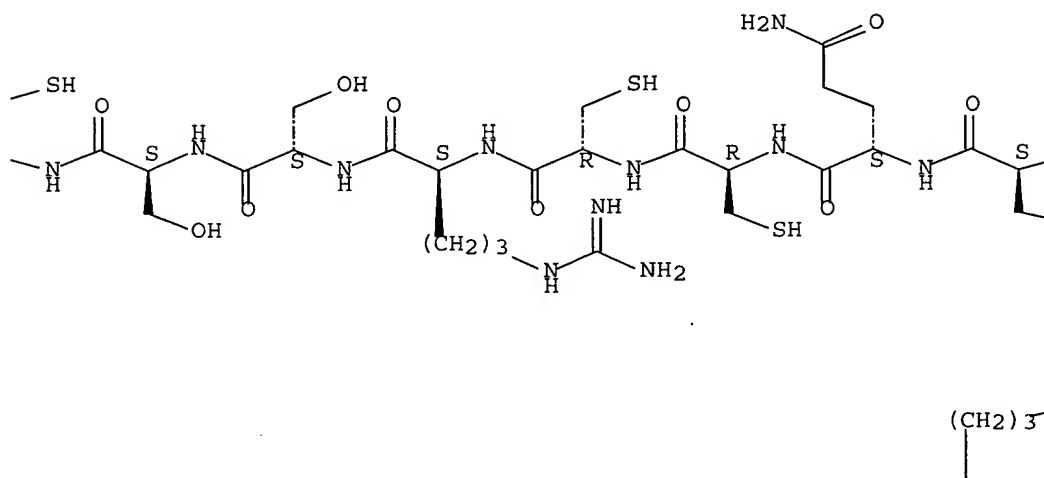
PAGE 1-A

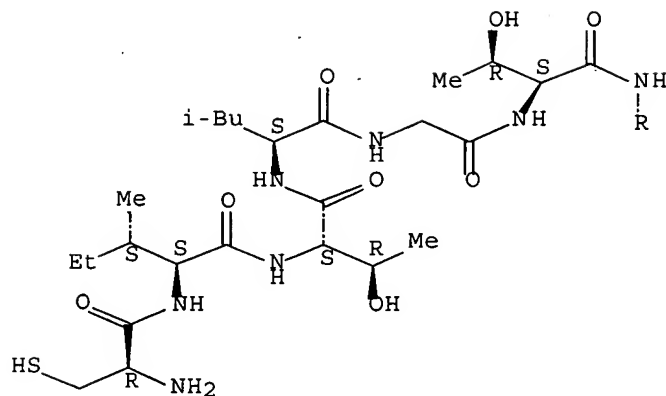
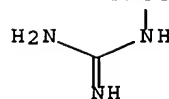
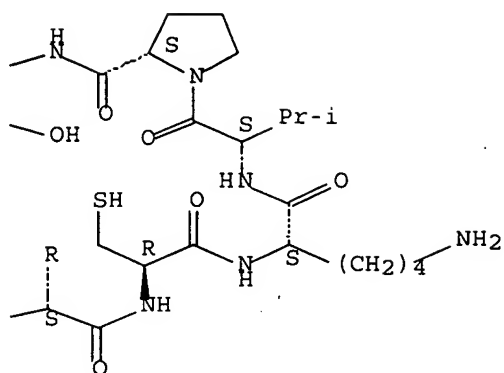


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RN 393885-42-2 CAPLUS

CN ω-Conotoxin Bu6.2 (Conus bullatus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCVVIVA VLLLTACQLI TAEDSRGTQL HRALRKATKH PVSTRCITPG  
51 TRCKVPSQCC RGPCKNGRCT PSPSEW

RN 393885-43-3 CAPLUS  
 CN Peptide, (Cys-Ile-Ile-Xaa-Gly-Thr-Ala-Cys-Lys-Val-Xaa-Ser-Gln-Cys-Cys-Asp-Gly-Xaa-Cys-Lys-Asn-Gly-Arg-Cys-Thr-Xaa-Ser-Xaa-Ser-Xaa-Xaa) (9CI) (CA INDEX NAME)

SEQ 1 CITXGTACKV XSQCCRGXCK NGRCTXSXSX X

RN 393887-01-9 CAPLUS  
 CN  $\omega$ -Conotoxin R6.1 (Conus radiatus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCCVVIVA VLVLTAQCLI TADDSRGMQK HHALGSISSL FKSTRHGCKP  
 51 LKRRCFNDKE CCSKFCNSVR KQCG

RN 393887-04-2 CAPLUS  
 CN  $\omega$ -Conotoxin R6.2 (Conus radiatus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCCVVIVA VLVLTAQCLI TADDSRGMQK HHALGSISSL FKSTRRGCKP  
 51 LKRRCFNDKE CCSKFCNSVR NQCG

RN 393887-10-0 CAPLUS  
 CN  $\omega$ -Conotoxin Ra6.1 (Conus rattus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCMVIIA VLFLTACQFD TAASYDKGKQ KPPTLRPADK HIRLTKRCNA  
 51 RNDGCSQHSQ CCSGSCNKTA GVCL

RN 393887-12-2 CAPLUS  
 CN  $\omega$ -Conotoxin Ra6.2 (Conus rattus precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCCVIIA VLFLTACQLD AAASYDKGKQ KPPTLRPADK HFRLIKRCNA  
 51 RNSGCSQHPQ CCSGSCNKTA GVCL

RN 393887-13-3 CAPLUS  
 CN Peptide, (Cys-Asn-Ala-Arg-Asn-Ser-Gly-Cys-Ser-Gln-His-Xaa-Gln-Cys-Cys-Ser-Gly-Ser-Cys-Asn-Lys-Thr-Ala-Gly-Val-Cys-Leu) (9CI) (CA INDEX NAME)

SEQ 1 CNARNSGCSQ HXQCCSGSCN KTAGVCL

RN 393887-15-5 CAPLUS  
 CN  $\omega$ -Conotoxin Ra6.3 (Conus rattus precursor) (9CI) (CA INDEX NAME)



SEQ 1 MKLTCCVVIIF VLFLTACQED TAASMDKGKQ KPPTLRPADK HFRLHKRCNA  
 51 RNSGCSQHPO CCSGSCNKTI GVCL

RN 393887-16-6 CAPLUS  
 CN Peptide, (Cys-Asn-Ala-Arg-Asn-Ser-Gly-Cys-Ser-Gln-His-Xaa-Gln-Cys-Cys-Ser-Gly-Ser-Cys-Asn-Lys-Thr-Leu-Gly-Val-Cys-Leu) (9CI) (CA INDEX NAME)

SEQ 1 CNARNSGCSQ HXQCCSGSCN KTLGVCL

RN 393887-60-0 CAPLUS  
 CN  $\omega$ -Conotoxin Vi6.1 (Conus viola precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCCVVIIV VLLLTACQLI TADDSRGTLQ HRALRKATKL PVSTRCITLG  
 51 TRCKVPSQCC RSSCKNGRCA PSPEEW

RN 393887-61-1 CAPLUS  
 CN Peptide, (Cys-Ile-Thr-Leu-Gly-Thr-Arg-Cys-Lys-Val-Xaa-Ser-Gln-Cys-Cys-Arg-Ser-Ser-Cys-Lys-Asn-Gly-Arg-Cys-Ala-Xaa-Ser-Xaa-Xaa-Xaa-Xaa) (9CI) (CA INDEX NAME)

SEQ 1 CITLGTRCKV XSQCCRSSCK NGRCAXSXXX X

L17 ANSWER 19 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:31479 CAPLUS Full-text

DOCUMENT NUMBER: 136:97748

TITLE: I-superfamily conotoxins and cDNAs and their pharmaceutical use

INVENTOR(S): Walker, Craig S.; Shetty, Reshma; Jiminez, Elsie C.; McIntosh, J. Michael; Olivera, Baldomero M.; Watkins, Maren; Jones, Robert M.; Shen, Greg S.

PATENT ASSIGNEE(S): University of Utah Research Foundation, USA; Cognetix, Inc.

SOURCE: PCT Int. Appl., 260 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002590	A2	20020110	WO 2001-US20796	20010629
WO 2002002590	A3	20020530		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, PW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, AU, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2412077	A1	20020110	CA 2001-2412077	20010629
AU 2001071657	A5	20020114	AU 2001-71657	20010629
US 2002102607	A1	20020801	US 2001-894882	20010629
US 6767895	B2	20040727		
EP 1307215	A2	20030507	EP 2001-950689	20010629

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2005096270	A1	20050505	US 2004-894314	20040720
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PRIORITY APPLN. INFO.:

US 2000-304166P	P	20000630
US 2000-243410P	P	20001027
US 2000-246581P	P	20001108
US 2000-247714P	P	20001114
US 2001-264256P	P	20010129
US 2001-894882	A3	20010629
WO 2001-US20796	W	20010629

OTHER SOURCE(S): MARPAT 136:97748

ED Entered STN: 11 Jan 2002

AB The invention relates to relatively short peptides (termed I-conotoxins herein), about 30-50 residues in length, which are naturally available in minute amts. in the venom of the cone snails or analogous to the naturally available peptides, and which preferably include four disulfide bonds. These conotoxins may be used to modulate potassium and calcium channel activities and thereby treat diseases associated with channel dysfunction. Thus, numerous conotoxins were purified from *Conus* venom and sequenced. The cDNA sequences encoding these conotoxins were cloned and sequenced. The conotoxins were tested for biol. activity. R11.19 from *C. radiatus* was lethal to mice and goldfish. Expts. with frog skeletal neuromuscular junctions indicated that it acted by blocking potassium channels in the presynaptic nerve terminal. Another toxin from *C. radiatus*, R11.14, demonstrated analgesic activity in three commonly used models of pain: acute, persistent/inflammatory, and neuropathic pain models. These conotoxins were also found to inhibit calcium channel activity in neuroblastoma cells.

IT 389098-67-3 389098-70-8 389098-76-4  
 389098-78-6 389098-84-4, Conotoxin Vr11.2  
 (Conus virgo precursor) 389098-86-6, Conotoxin Vr11.4  
 (Conus virgo precursor) 389098-87-7, Conotoxin Vr11.5  
 (Conus virgo precursor) 389098-88-8, Conotoxin Vr11.6  
 (Conus virgo precursor) 389098-93-5 389098-94-6  
 389098-95-7

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (amino acid sequence; I-superfamily conotoxins and cDNAs and their pharmaceutical use)

RN 389098-67-3 CAPLUS

CN Conotoxin L11.2 (*Conus lynceus* precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-70-8 CAPLUS

CN Conotoxin L11.5 (*Conus lynceus* precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-76-4 CAPLUS

CN Conotoxin Em11.5 (*Conus emaciatus* precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-78-6 CAPLUS

CN Conotoxin Em11.7 (Conus emaciatus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-84-4 CAPLUS

CN Conotoxin Vr11.2 (Conus virgo precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-86-6 CAPLUS

CN Conotoxin Vr11.4 (Conus virgo precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-87-7 CAPLUS

CN Conotoxin Vr11.5 (Conus virgo precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-88-8 CAPLUS

CN Conotoxin Vr11.6 (Conus virgo precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-93-5 CAPLUS

CN Conotoxin Fi11.9 (Conus figulinus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-94-6 CAPLUS

CN Conotoxin Fi11.10 (Conus figulinus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389098-95-7 CAPLUS

CN Conotoxin Fi11.10A (Conus figulinus precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389097-97-6

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(conotoxin Em11.5; I-superfamily conotoxins and cDNAs and their pharmaceutical use)

RN 389097-97-6 CAPLUS

CN Peptide, (Cys-Leu-His-Xaa-Thr-Ser-Xaa-Cys-Arg-Arg-Ser-Phe-Gln-Cys-Cys-His-Gly-Ile-Cys-Cys-Phe-Arg-Arg-Cys-Ser-Asn-Ser-Cys-Arg-Phe-Gly-Lys-Arg-Ala-Thr-Phe-Gln-Xaa-Phe-Ile-Leu-His-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389097-99-8

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(conotoxin Em11.7; I-superfamily conotoxins and cDNAs and their pharmaceutical use)

RN 389097-99-8 CAPLUS

CN Peptide, (Cys-Arg-Arg-Xaa-Gly-Ser-Ser-Cys-Arg-Arg-Ser-Xaa-Gln-Cys-Cys-Arg-Lys-Ser-Cys-Cys-Ile-Gly-Xaa-Cys-Xaa-Phe-Pro-Cys-Arg-Xaa-Val-Gly-Lys-Arg-Ala-Thr-Phe-Arg-Xaa-Leu-Ile-Leu-His-His) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389098-14-0

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(conotoxin F811.10; I-superfamily conotoxins and cDNAs and their pharmaceutical use)

RN 389098-14-0 CAPLUS

CN Peptide, (Cys-Arg-Ala-Xaa-Gly-Val-Xaa-Cys-Xaa-Xaa-Gly-Ser-Gln-Cys-Cys-Leu-

Ser-Gln-Cys-Cys-Met-Ala-Ser-Cys-Ala-Asn-Xaa-Cys-Arg-His-Xaa-Gly-Lys-Arg-  
Ala-Arg-Leu-Gln-Xaa-Phe-Phe-Arg-Gln-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389098-15-1

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(conotoxin F811.10A; I-superfamily conotoxins and  
cDNAs and their pharmaceutical use)

RN 389098-15-1 CAPLUS

CN Peptide, (Cys-Arg-Ala-Xaa-Gly-Val-Xaa-Cys-Xaa-Xaa-Gly-Ser-Gln-Cys-Cys-Leu-  
Ser-Gln-Cys-Cys-Met-Ala-Ser-Cys-Ala-Asn-Xaa-Cys-Arg-His-Xaa-Gly-Lys-Arg-  
Ala-Arg-Leu-Gln-Xaa-Phe-Phe-Arg-Arg-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389098-13-9

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(conotoxin F811.9; I-superfamily conotoxins and  
cDNAs and their pharmaceutical use)

RN 389098-13-9 CAPLUS

CN Peptide, (Cys-Arg-Ala-Xaa-Gly-Val-Arg-Cys-Xaa-Phe-Asp-Ser-Gln-Cys-Cys-Xaa-  
Ser-Xaa-Cys-Cys-Met-Gly-Ser-Cys-Ala-Asn-Xaa-Cys-Arg-Ile-Xaa-Gly-Lys-Arg-  
Ala-Arg-Leu-Phe-Arg-Gln-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389098-06-0

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(conotoxin Vr11.4; I-superfamily conotoxins and  
cDNAs and their pharmaceutical use)

RN 389098-06-0 CAPLUS

CN Peptide, (Cys-Leu-His-Xaa-Thr-Xaa-Xaa-Cys-Arg-Arg-Ser-Phe-Gln-Cys-Cys-His-  
Gly-Asn-Cys-Cys-Phe-Arg-Arg-Cys-Ser-Asn-Ser-Cys-Arg-Phe-Gly-Lys-Arg-Ala-  
Thr-Phe-Gln-Xaa-Phe-Ile-Leu-His-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389098-07-1

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(conotoxin Vr11.5; I-superfamily conotoxins and  
cDNAs and their pharmaceutical use)

RN 389098-07-1 CAPLUS

CN Peptide, (Cys-Leu-His-Xaa-Thr-Ser-Xaa-Cys-Gly-Arg-Ser-Phe-Gln-Cys-Cys-His-  
Gly-Ile-Cys-Cys-Phe-Arg-Arg-Cys-Ser-Asn-Ser-Cys-Arg-Phe-Gly-Lys-Arg-Ala-  
Thr-Phe-Gln-Xaa-Phe-Ile-Leu-His-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389098-08-2

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(conotoxin Vr11.6; I-superfamily conotoxins and  
cDNAs and their pharmaceutical use)

RN 389098-08-2 CAPLUS

CN Peptide, (Cys-Leu-Xaa-Xaa-Thr-Ser-Xaa-Cys-Arg-Arg-Ser-Phe-Gln-Cys-Cys-His-  
Gly-Ile-Cys-Cys-Phe-Arg-Arg-Cys-Ser-Asn-Ser-Cys-Arg-Phe-Gly-Lys-Arg-Ala-  
Thr-Phe-Gln-Xaa-Phe-Ile-Leu-His-Arg) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389099-61-0 389099-64-3 389100-01-0

389100-02-1 389100-03-2 389100-04-3  
 389100-10-1 389100-18-9 389100-19-0  
 389100-20-3

RL: PRP (Properties)

(unclaimed protein sequence; i-superfamily conotoxins and  
 cDNAs and their pharmaceutical use)

RN 389099-61-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-asparaginyglycyl-L-  
 alanyl-L-prolyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-arginyl-L-histidyl-L-  
 $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-threonyl-L-  
 tryptophyl-L-glutamyl-L-arginyl-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-  
 seryl-L-glutamyl-L-arginyl-L-cysteinylglycyl-L-threonyl-L-alanyl-L-  
 threonyl-L-phenylalanylglycyl-L-cysteinyl-L-tryptophyl-L-valyl-L- $\alpha$ -  
 aspartyl-L-prolyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389099-64-3 CAPLUS

CN L-Proline, L-asparaginy-L-tryptophyl-L-seryl-L-tryptophyl-L-cysteinyl-L-  
 serylglycyl-L-serylglycyl-L- $\alpha$ -glutamylglycyl-L-cysteinyl-L- $\alpha$ -  
 aspartyl-L-tyrosyl-L-histidyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-  
 cysteinylglycyl-L- $\alpha$ -glutamyl-L-arginyl-L-cysteinyl-L-cysteinyl-L-  
 isoleucyl-L- $\alpha$ -glutamyl-L-seryl-L-methionyl-L-cysteinyl-L-  
 isoleucylglycyl-L- $\alpha$ -aspartylglycyl-L-valyl-L-alanyl-L-cysteinyl-L-  
 tryptophyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-01-0 CAPLUS

CN L-Arginine, L-cysteinyl-L-leucyl-L-histidyl-L- $\alpha$ -glutamyl-L-threonyl-  
 L-seryl-L-prolyl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-phenylalanyl-L-  
 glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-isoleucyl-L-  
 cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-  
 seryl-L-asparaginy-L-seryl-L-cysteinyl-L-arginyl-L-phenylalanylglycyl-L-  
 lysyl-L-arginyl-L-alanyl-L-threonyl-L-phenylalanyl-L-glutamyl-L- $\alpha$ -  
 glutamyl-L-phenylalanyl-L-isoleucyl-L-leucyl-L-histidyl- (9CI) (CA INDEX  
 NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-02-1 CAPLUS

CN L-Arginine, L-cysteinyl-L-leucyl-L-histidyl-L- $\alpha$ -glutamyl-L-threonyl-  
 L-prolyl-L-prolyl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-phenylalanyl-L-  
 glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-asparaginy-L-  
 cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-  
 seryl-L-asparaginy-L-seryl-L-cysteinyl-L-arginyl-L-phenylalanylglycyl-L-  
 lysyl-L-arginyl-L-alanyl-L-threonyl-L-phenylalanyl-L-glutamyl-L- $\alpha$ -  
 glutamyl-L-phenylalanyl-L-isoleucyl-L-leucyl-L-histidyl- (9CI) (CA INDEX  
 NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-03-2 CAPLUS

CN L-Arginine, L-cysteinyl-L-leucyl-L-histidyl-L- $\alpha$ -glutamyl-L-threonyl-  
 L-seryl-L-prolyl-L-cysteinylglycyl-L-arginyl-L-seryl-L-phenylalanyl-L-  
 glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-isoleucyl-L-  
 cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-  
 seryl-L-asparaginy-L-seryl-L-cysteinyl-L-arginyl-L-phenylalanylglycyl-L-  
 lysyl-L-arginyl-L-alanyl-L-threonyl-L-phenylalanyl-L-glutamyl-L- $\alpha$ -  
 glutamyl-L-phenylalanyl-L-isoleucyl-L-leucyl-L-histidyl- (9CI) (CA INDEX  
 NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-4-3 CAPLUS

CN L-Arginine, L-cysteinyl-L-leucyl-L-tyrosyl-L- $\alpha$ -glutamyl-L-threonyl-L-seryl-L-prolyl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-phenylalanyl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-isoleucyl-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-seryl-L-asparaginyl-L-seryl-L-cysteinyl-L-arginyl-L-phenylalanylglycyl-L-lysyl-L-arginyl-L-alanyl-L-threonyl-L-phenylalanyl-L-glutamyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-isoleucyl-L-leucyl-L-histidyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-10-1 CAPLUS

CN L-Histidine, L-cysteinyl-L-arginyl-L-arginyl-L- $\alpha$ -glutamylglycyl-L-seryl-L-seryl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-tyrosyl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-arginyl-L-lysyl-L-seryl-L-cysteinyl-L-cysteinyl-L-isoleucylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-prolyl-L-cysteinyl-L-arginyl-L-tryptophyl-L-valylglycyl-L-lysyl-L-arginyl-L-alanyl-L-threonyl-L-phenylalanyl-L-arginyl-L- $\alpha$ -glutamyl-L-leucyl-L-isoleucyl-L-leucyl-L-histidyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-18-9 CAPLUS

CN L-Arginine, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-valyl-L-arginyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L- $\alpha$ -aspartyl-L-seryl-L-glutamyl-L-cysteinyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-methionylglycyl-L-seryl-L-cysteinyl-L-alanyl-L-asparaginyl-L-prolyl-L-cysteinyl-L-arginyl-L-isoleucyl-L-prolylglycyl-L-lysyl-L-arginyl-L-alanyl-L-arginyl-L-leucyl-L-phenylalanyl-L-arginyl-L-glutamyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-19-0 CAPLUS

CN L-Arginine, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-valyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-tyrosylglycyl-L-seryl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-leucyl-L-seryl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-methionyl-L-alanyl-L-seryl-L-cysteinyl-L-alanyl-L-asparaginyl-L-prolyl-L-cysteinyl-L-arginyl-L-histidyl-L-prolylglycyl-L-lysyl-L-arginyl-L-alanyl-L-arginyl-L-leucyl-L-glutamyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-phenylalanyl-L-arginyl-L-glutamyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 389100-20-3 CAPLUS

CN L-Arginine, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-valyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-tyrosylglycyl-L-seryl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-leucyl-L-seryl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-methionyl-L-alanyl-L-seryl-L-cysteinyl-L-alanyl-L-asparaginyl-L-prolyl-L-cysteinyl-L-arginyl-L-histidyl-L-prolylglycyl-L-lysyl-L-arginyl-L-alanyl-L-arginyl-L-leucyl-L-glutamyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-phenylalanyl-L-arginyl-L-arginyl- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 389082-43-3 389082-45-5 389082-49-9  
389082-50-2 389082-51-3 389082-54-6  
389082-55-7

RL: PRP (Properties)

(unclaimed sequence; i-superfamily conotoxins and cDNAs and their pharmaceutical use)

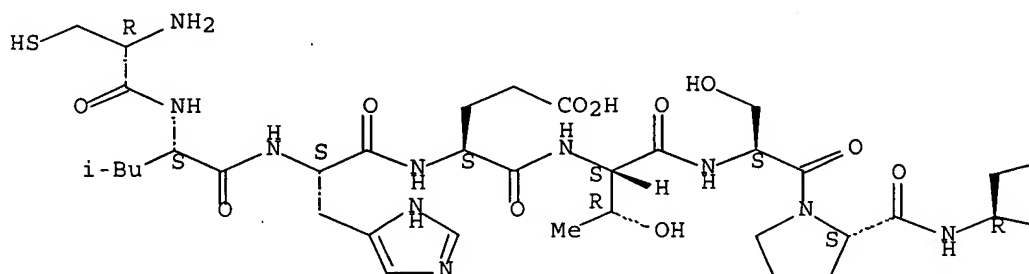
RN 389082-43-3 CAPLUS

CN L-Phenylalanine, L-cysteinyl-L-leucyl-L-histidyl-L- $\alpha$ -glutamyl-L-threonyl-L-seryl-L-prolyl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-phenylalanyl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-isoleucyl-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-seryl-L-asparaginyl-L-seryl-L-cysteinyl-L-arginyl- (9CI) (CA INDEX NAME)

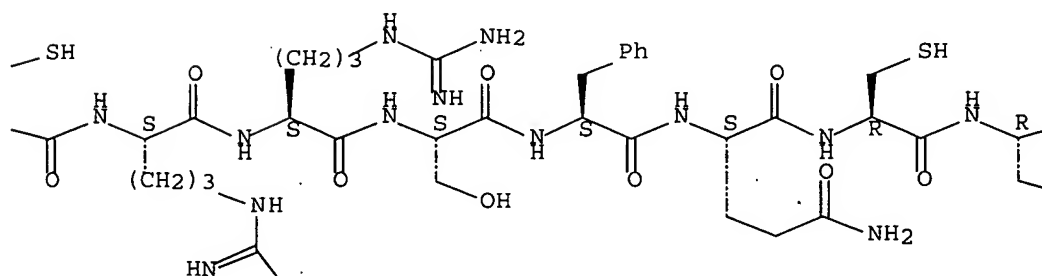
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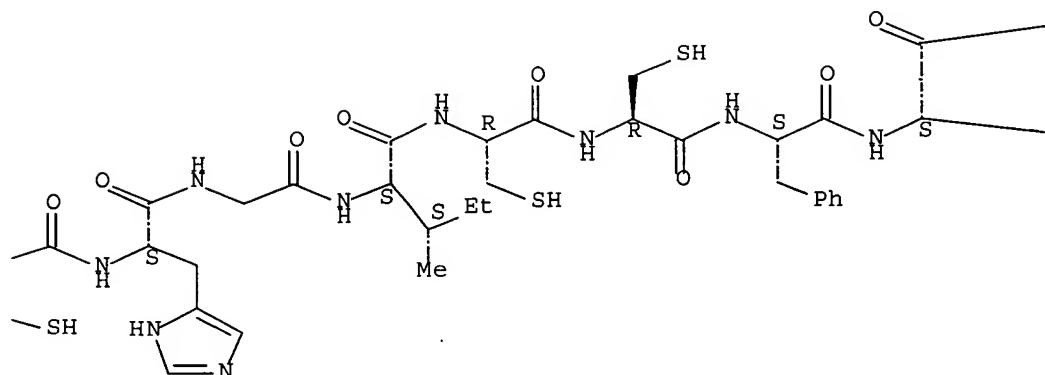
Absolute stereochemistry.

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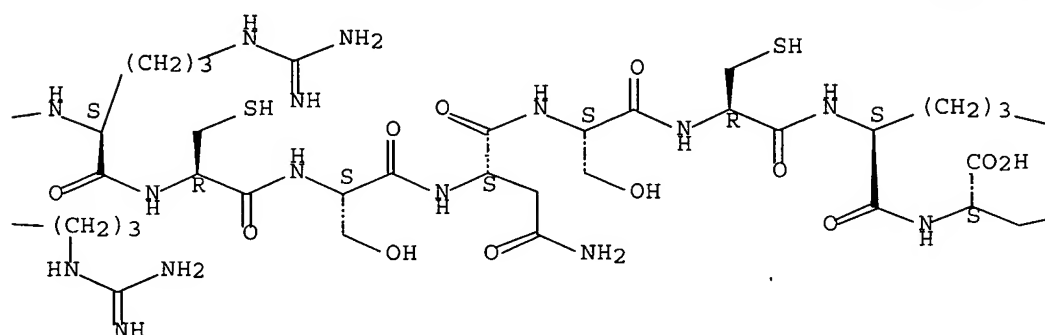


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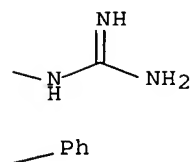




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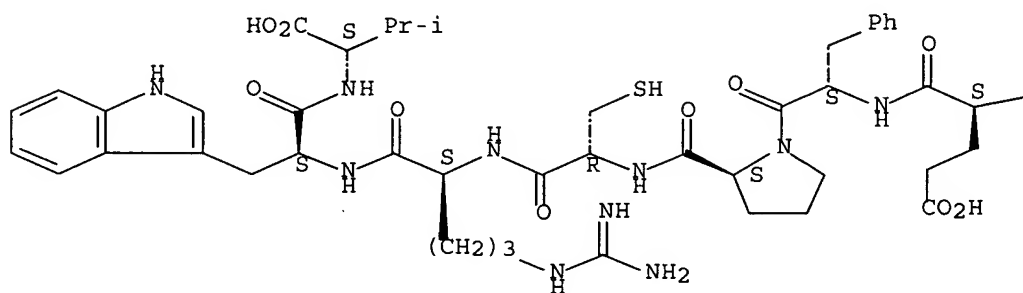


CN L-Valine, L-cysteinyl-L-arginyl-L-arginyl-L- $\alpha$ -glutamylglycyl-L-seryl-  
 L-seryl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-tyrosyl-L-glutaminyl-L-  
 cysteinyl-L-cysteinyl-L-arginyl-L-lysyl-L-seryl-L-cysteinyl-L-cysteinyl-L-  
 isoleucylglycyl-L- $\alpha$ -glutamyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-  
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 NAME)

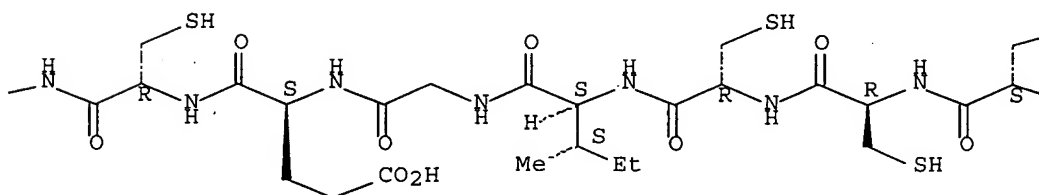
SEQ 1 CRREGSSCRR SYQCCRKSCC IGECEFPGRW V

Absolute stereochemistry.

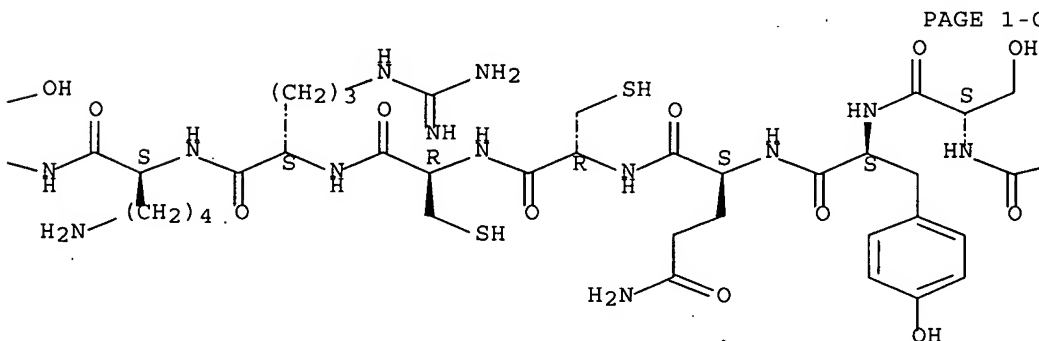
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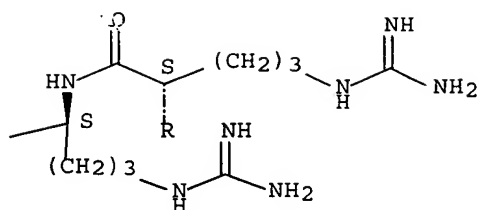
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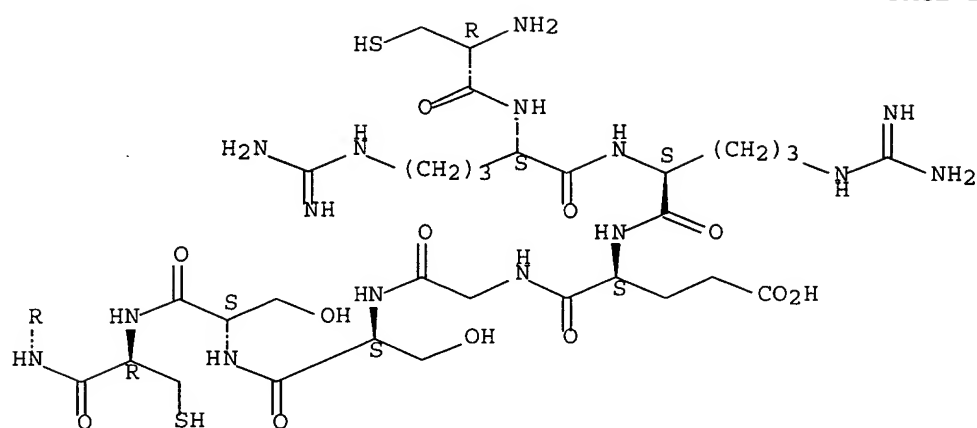
PAGE 1-C



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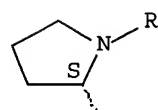
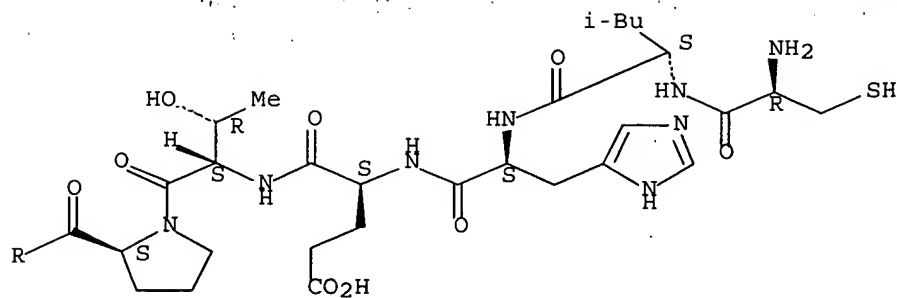
RN 389082-49-9 CAPLUS

CN L-Phenylalanine, L-cysteinyl-L-leucyl-L-histidyl-L- $\alpha$ -glutamyl-L-threonyl-L-prolyl-L-prolyl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-phenylalanyl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-asparaginy-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-seryl-L-asparaginy-L-seryl-L-cysteinyl-L-arginyl- (9CI) (CA INDEX NAME)

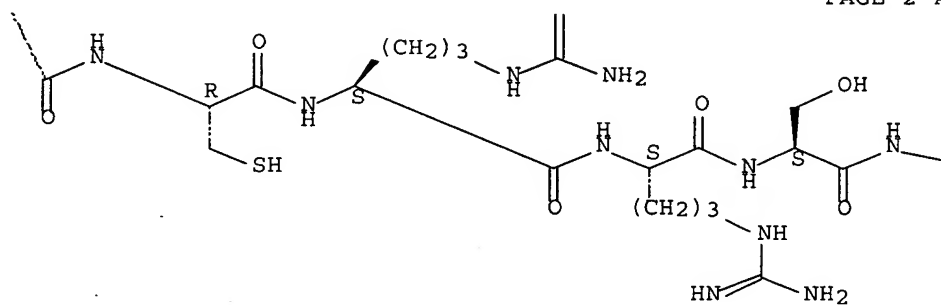
SEQ 1 CLHETPPCRR SFQCCHGNCC FRRCSNSCRF

Absolute stereochemistry.

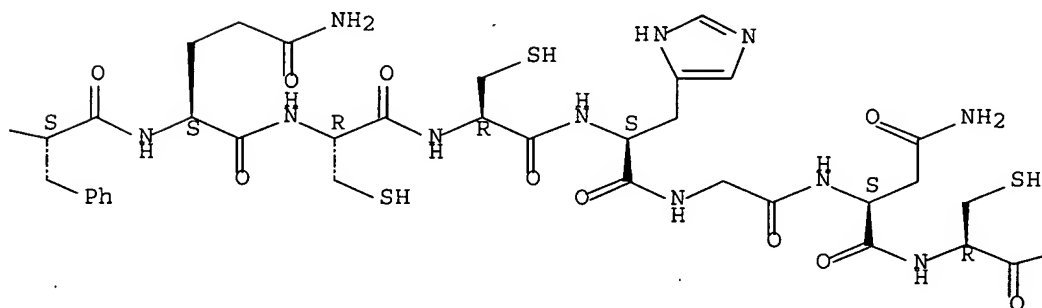
PAGE 1-A

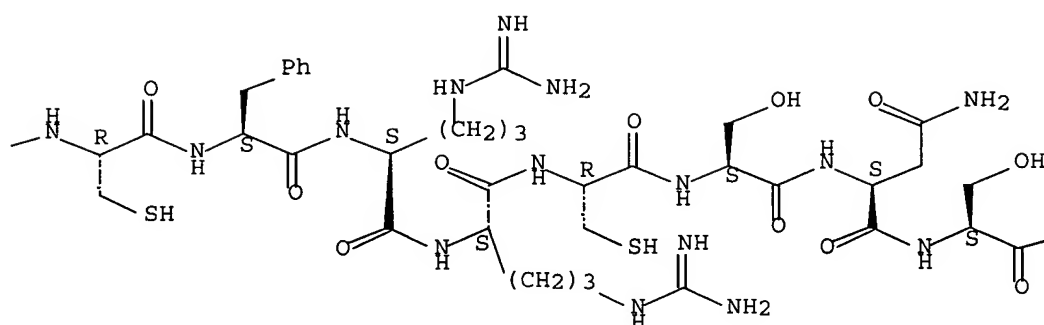


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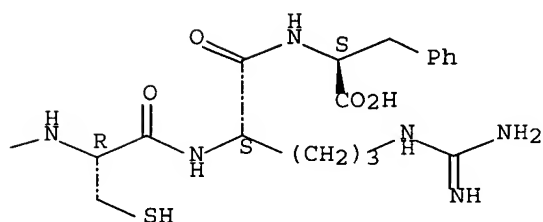


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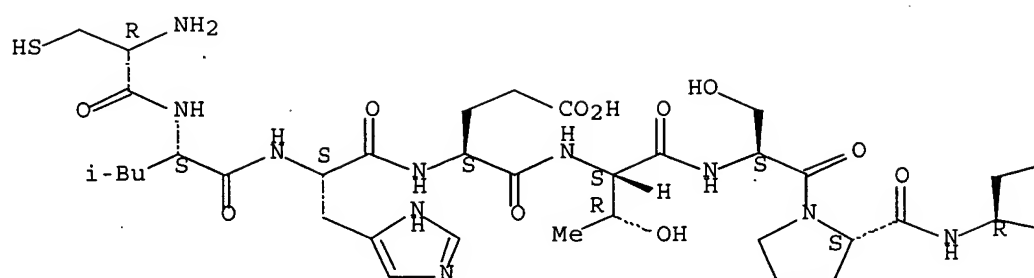


RN 389082-50-2 CAPLUS

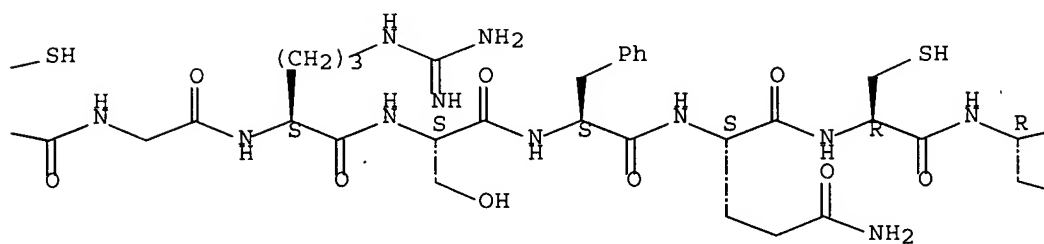
CN L-Phenylalanine, L-cysteinyl-L-leucyl-L-histidyl-L- $\alpha$ -glutamyl-L-threonyl-L-seryl-L-prolyl-L-cysteinylglycyl-L-arginyl-L-seryl-L-phenylalanyl-L-glutamyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-isoleucyl-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-seryl-L-asparaginyl-L-seryl-L-cysteinyl-L-arginyl- (9CI) (CA INDEX NAME)

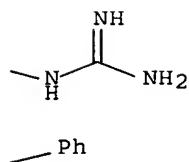
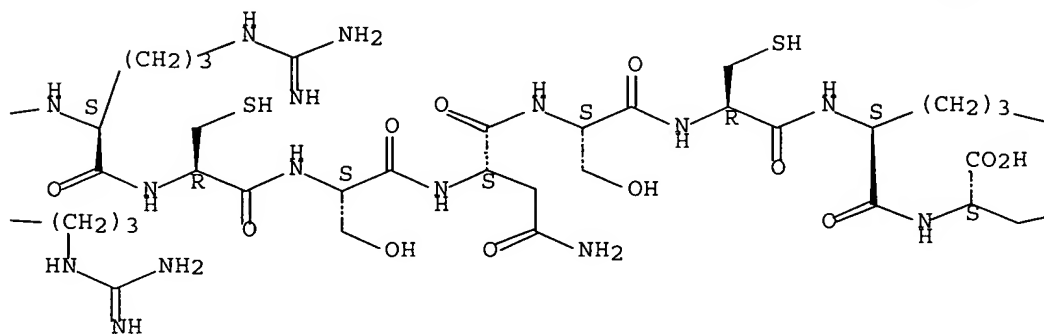
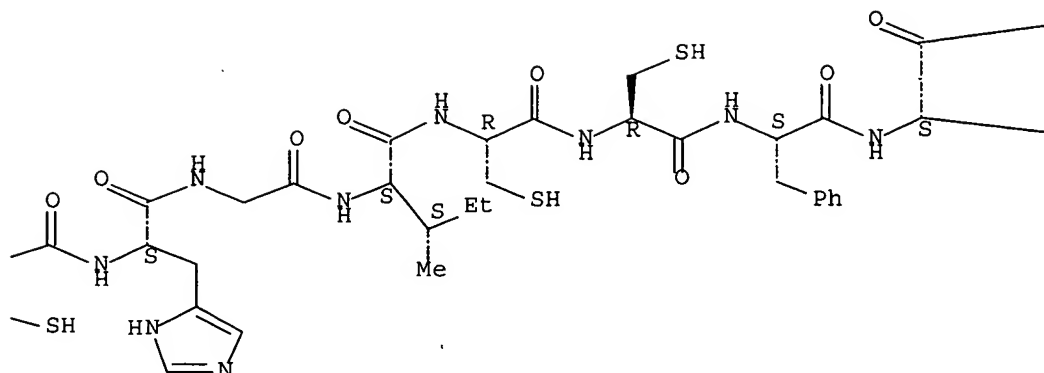
SEQ 1 CLHETSPCGR SFQCCHGICC FRRCSNSCRF

Absolute stereochemistry.



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RN 389082-51-3 CAPLUS

CN L-Phenylalanine, L-cysteinyl-L-leucyl-L-tyrosyl-L- $\alpha$ -glutamyl-L-threonyl-L-seryl-L-prolyl-L-cysteinyl-L-arginyl-L-arginyl-L-seryl-L-phenylalanyl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-histidylglycyl-L-isoleucyl-L-cysteinyl-L-cysteinyl-L-phenylalanyl-L-arginyl-L-arginyl-L-cysteinyl-L-seryl-L-asparaginyl-L-seryl-L-cysteinyl-L-arginyl- (9CI) (CA

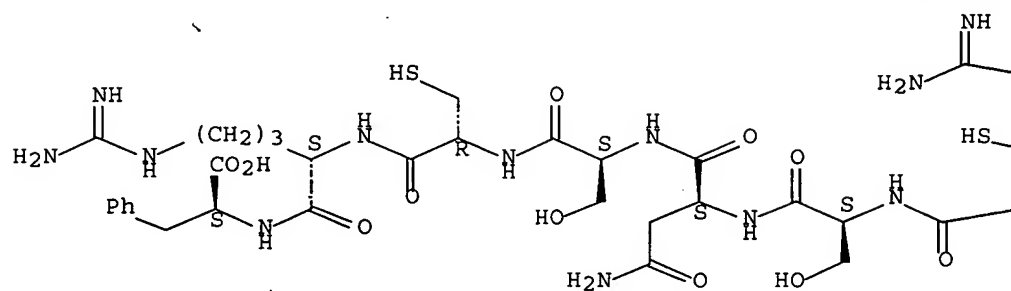
INDEX NAME

INDEX NAME

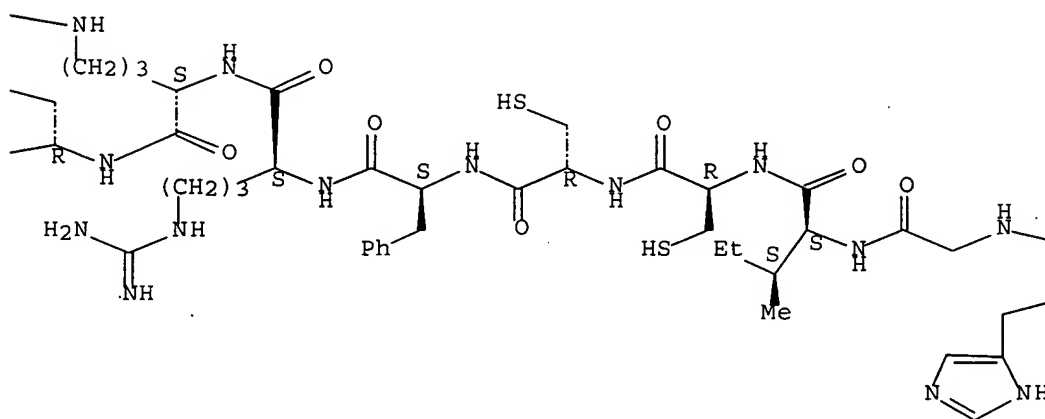
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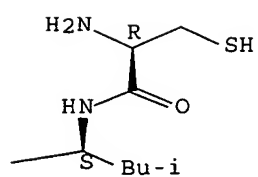
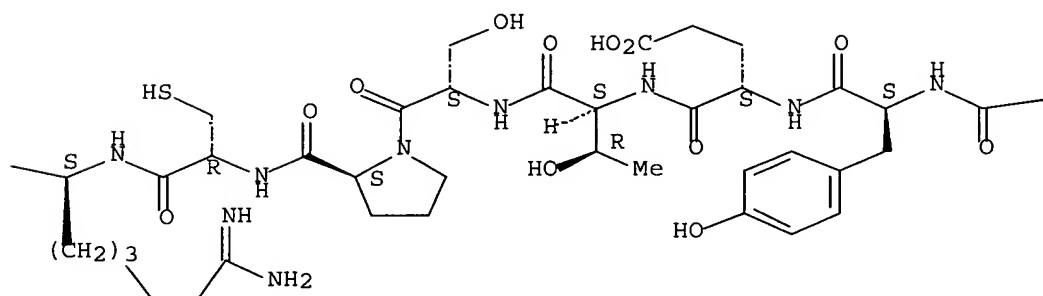
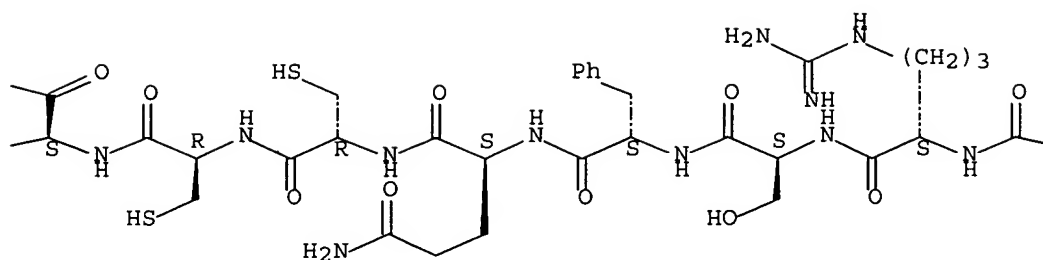
Absolute stereochemistry.

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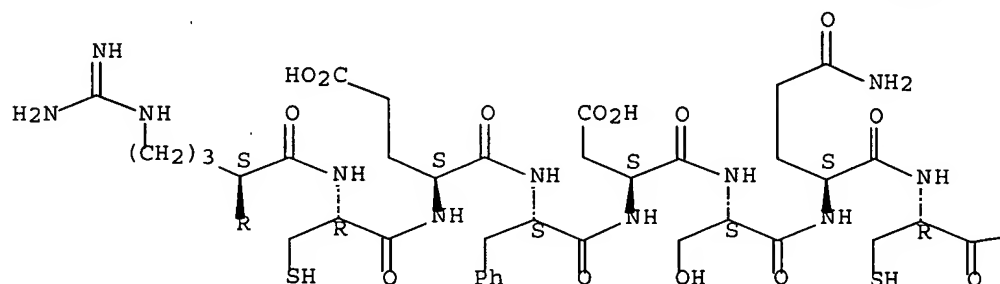
RN 389082-54-6 CAPLUS

CN L-Proline, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-valyl-L-arginyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L- $\alpha$ -aspartyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-methionylglycyl-L-seryl-L-cysteinyl-L-alanyl-L-asparaginyl-L-prolyl-L-cysteinyl-L-arginyl-L-isoleucyl- (9CI) (CA INDEX NAME)

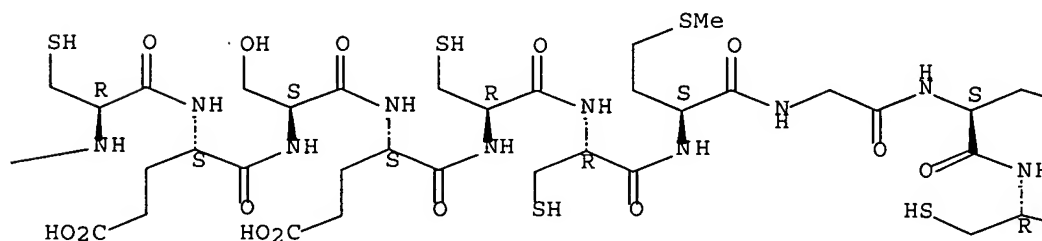
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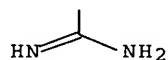
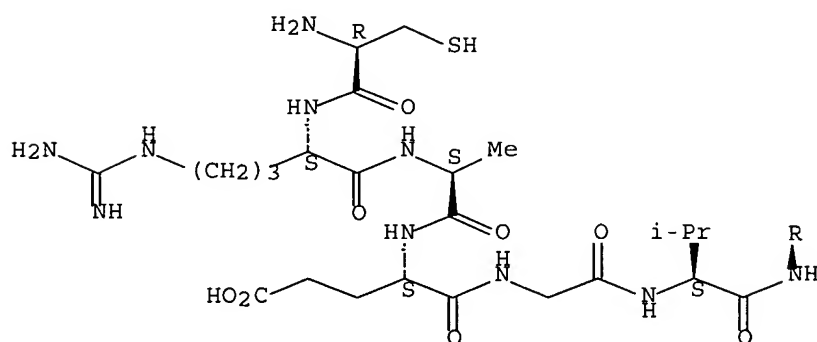
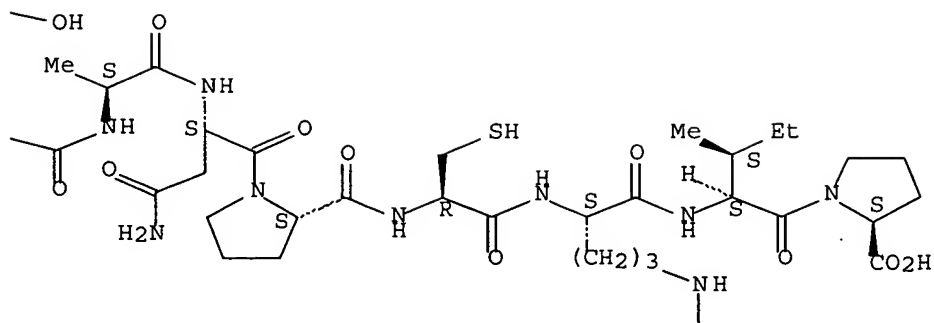
Absolute stereochemistry.

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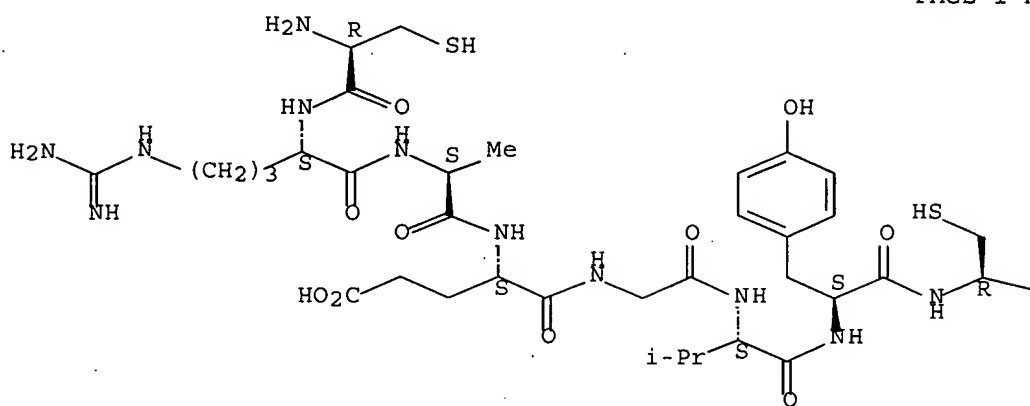
RN 389082-55-7 CAPLUS

CN L-Proline, L-cysteinyl-L-arginyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-valyl-L-tyrosyl-L-cysteinyl-L- $\alpha$ -glutamyl-L-tyrosylglycyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-leucyl-L-seryl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-methionyl-L-alanyl-L-seryl-L-cysteinyl-L-alanyl-L-asparaginyl-L-prolyl-L-cysteinyl-L-arginyl-L-histidyl- (9CI) (CA INDEX NAME)

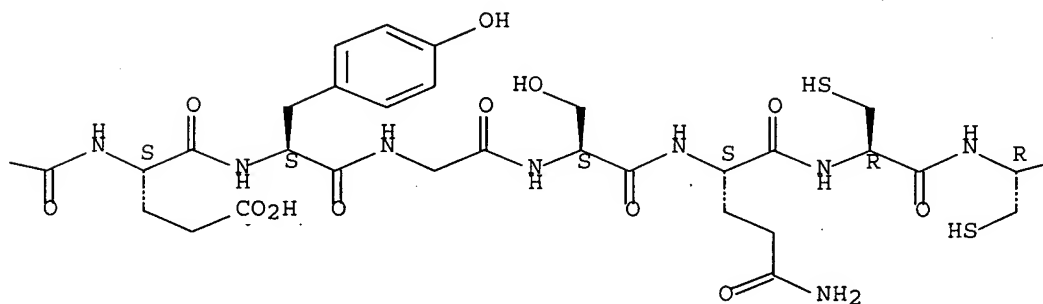
SEQ 1 CRAFGVYCEY GSQCCLSQCC MASCANPCRH P

Absolute stereochemistry.

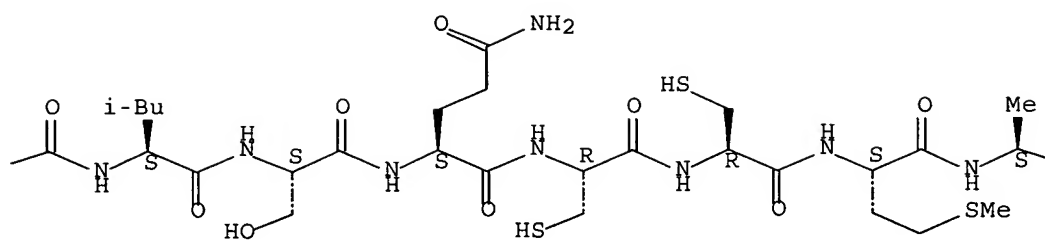
PAGE 1-A



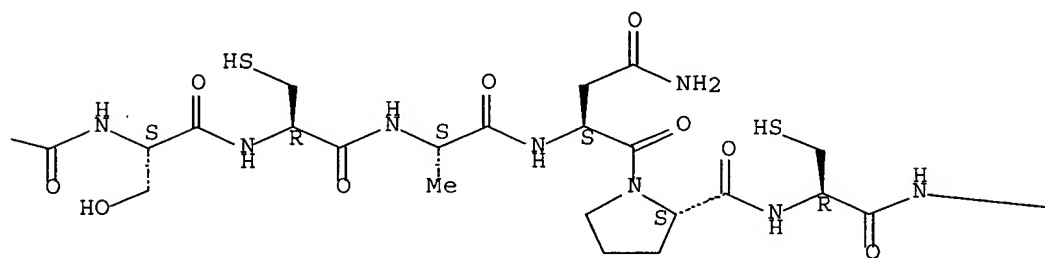
PAGE 1-B



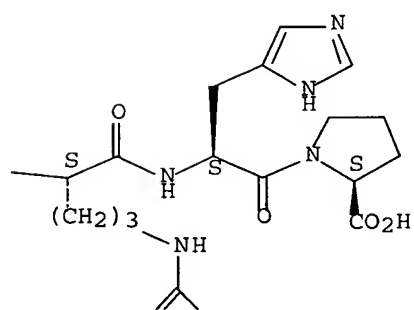
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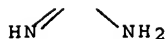


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L17 ANSWER 20 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:772157 CAPLUS Full-text

DOCUMENT NUMBER: 135:328320

TITLE: Conopeptides of Conus textileINVENTOR(S): Furie, Bruce; Furie, Barbara C.; Stenflo, Johan;  
Rigby, Alan C.; Roepstorff, Peter

PATENT ASSIGNEE(S): USA

SOURCE: U.S., 19 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6307014	B1	20011023	US 1998-136769	19980819
PRIORITY APPLN. INFO.:			US 1998-136769	19980819

ED Entered STN: 24 Oct 2001

AB Substantially pure conopeptides containing  $\gamma$ -carboxyglutamic acid (Gla) are disclosed. Thus, 11 novel Gla-containing peptides were isolated from Conus textile and partially characterized. Peptide P11.1 had the sequence H-Gla-Cys-Cys-Gla-Asp-Gly-(6-bromo-Trp)-Cys-Cys-Thr-Ala-Ala-HyPro-OH. Cys-2 and Cys-8 were disulfide bonded as were Cys-3 and Cys-9. GalNac-Gal was attached to Thr-10. The activity of P11.1 on a cholinergic synapse of a buccal ganglion was studied. The presynaptic  $\text{Ca}^{2+}$  current was decreased which resulted in a decreased ACh release. P11.1 had no effect on postsynaptic ACh receptors.

IT 367965-81-9

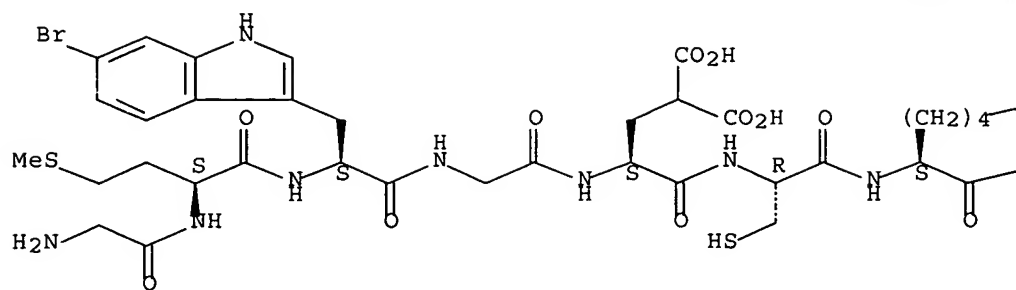
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)  
(conopeptide P10.3; conopeptides of Conus textile)

RN 367965-81-9 CAPLUS

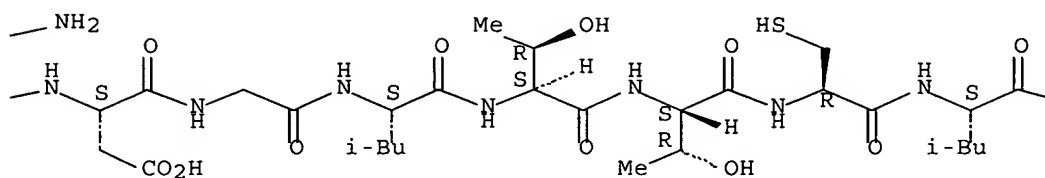
CN L-Tryptophan, glycyl-L-methionyl-6-bromo-L-tryptophylglycyl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl-(4R)-4-hydroxy-L-prolyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-cysteinyl-4-carboxy-L- $\alpha$ -glutamylglycyl-L-seryl-L-cysteinyl-L-threonyl-L-methionyl-6-bromo-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

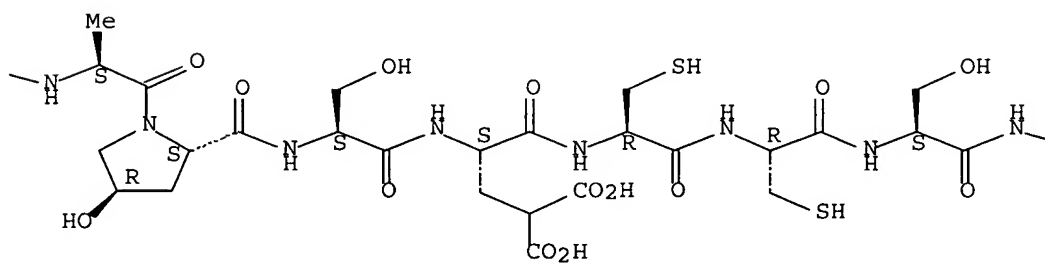
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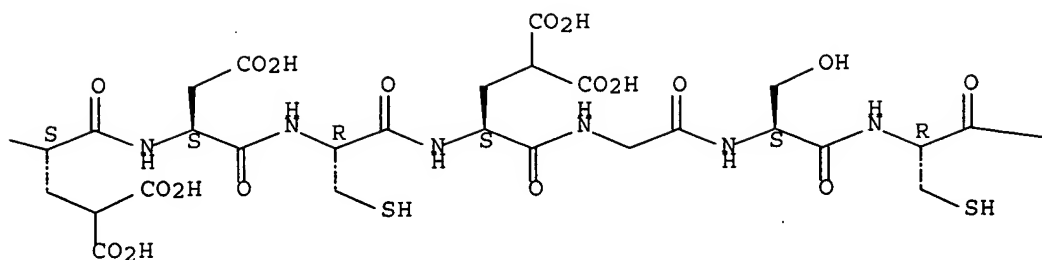


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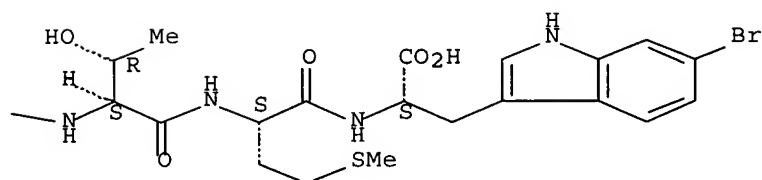


PAGE 1-C





PAGE 1-E



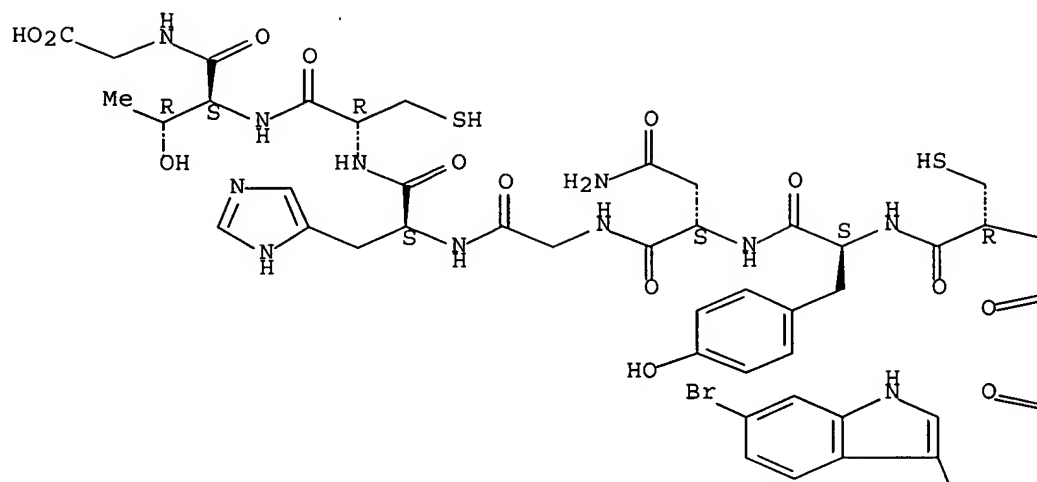
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)  
(cono peptide P14.1; conopeptides of *Conus textile*)

CN Glycine, L-leucyl-L-cysteinyl- (4R) -4-hydroxy-L-prolyl-L- $\alpha$ -aspartyl-L-tyrosyl-L-threonyl-4-carboxy-L- $\alpha$ -glutamyl- (4R) -4-hydroxy-L-prolyl-L-cysteinyl-L-seryl-L-histidyl-L-alanyl-L-histidyl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-6-bromo-L-tryptophyl-L-asparaginyl-L-cysteinyl-L-tyrosyl-L-asparaginylglycyl-L-histidyl-L-cysteinyl-L-threonyl- (9CI) (CA INDEX NAME)

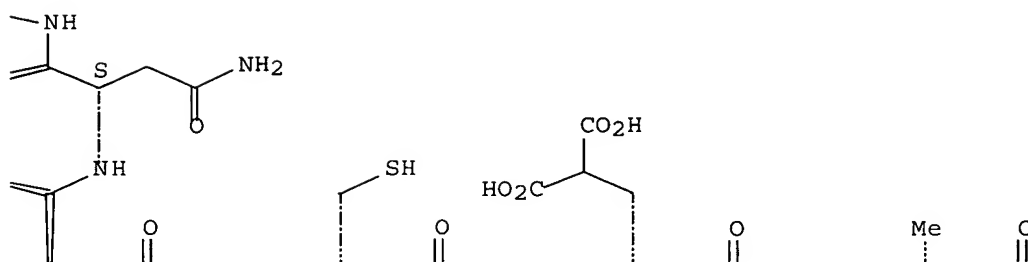
SEO 1 LCXDYTXCS HAHXCCSWNC YNGHCTG

107

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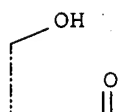


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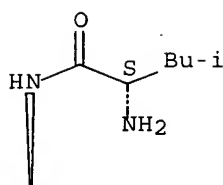




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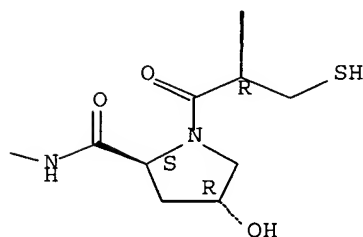
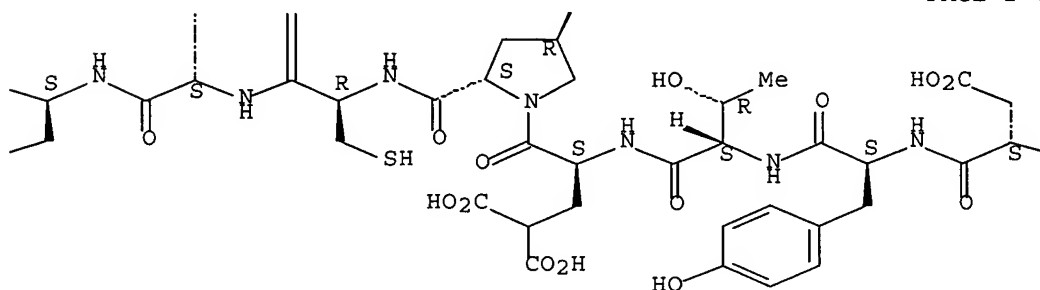
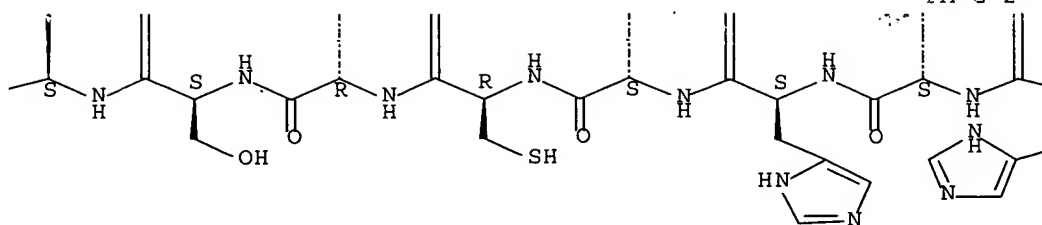


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PAGE 2-A





REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 21 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2001:507553 CAPLUS Full-text  
 DOCUMENT NUMBER: 135:118211  
 TITLE: O-superfamily conotoxin peptides and cDNAs  
 and pharmaceutical uses  
 INVENTOR(S): Olivera, Baldomero M.; Cartier, G. Edward; Watkins,  
 Maren; Hillyard, David R.; McIntosh, J. Michael;  
 Layer, Richard T.; Jones, Robert M.  
 PATENT ASSIGNEE(S): University of Utah Research Foundation, USA; Cognetix,  
 Inc.  
 SOURCE: PCT Int. Appl., 277 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

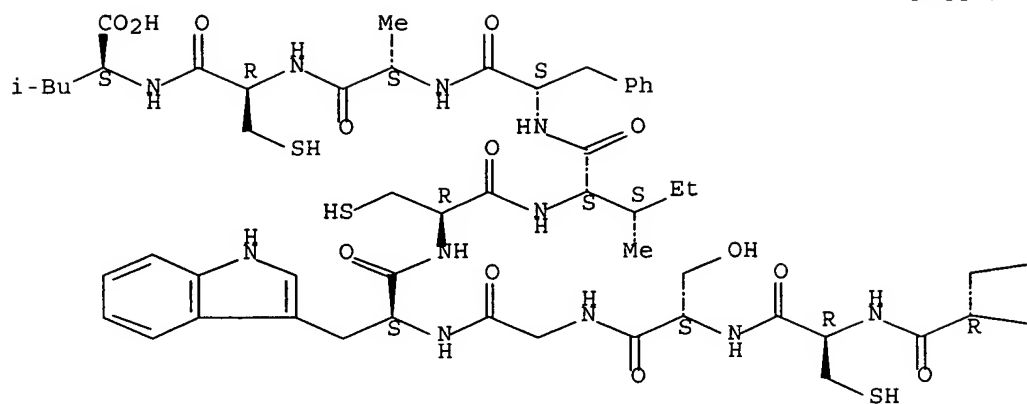
PATENT INFORMATION

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001049312	A2	20010712	WO 2000-US35431	20001228
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CA 2396529	A1	20010712	CA 2000-2396529	20001228
AU 2001027404	A5	20010716	AU 2001-27404	20001228
EP 1246635	A1	20021009	EP 2000-990369	20001228
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
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US 6762165	B2	20040713		
JP 2003533178	T	20031111	JP 2001-549679	20001228
US 2005214903	A1	20050929	US 2004-839227	20040506
AU 2006202549	A1	20060713	AU 2006-202549	20060614
PRIORITY APPLN. INFO.:				
			US 1999-173754P	P 19991230
			US 2000-214263P	P 20000626
			US 2000-219440P	P 20000720
			US 2000-243412P	P 20001027
			AU 2001-27404	A3 20001228
			US 2000-749637	A3 20001228
			WO 2000-US35431	W 20001228
ED	Entered STN: 13 Jul 2001			
AB	Conus cDNAs encoding conotoxins as well as conotoxin precursor proteins and mature conotoxins are disclosed. These conotoxins may be used to treat or prevent diseases associated with ion channel dysfunction.			
IT	350227-35-9 350227-37-1 350227-43-9 350227-45-1 350262-97-4 350501-43-8, Conotoxin Gm6.2 (Conus gloriamaris) 350515-81-0, Conotoxin Da6.1 (Conus dalli precursor) 350515-87-6 350515-89-8 350588-72-6 350598-18-4, Conotoxin Da6.1 (Conus dalli) 350598-21-9, Conotoxin Af6.10 (Conus ammiralis) 350598-22-0, Conotoxin Tx6.10 (Conus textile) 350598-84-4, Conotoxin Tx6.8 (Conus textile) RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study) (amino acid sequence; o-superfamily conotoxin peptides and cDNAs and pharmaceutical uses)			
RN	350227-35-9 CAPLUS			
CN	L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartylglycylglycyl-L-threonylglycyl-L-cysteinyl-L- $\alpha$ -aspartyl-L-serylglycyl-L-asparaginyll-L-glutaminyll-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-cysteinyl-L-isoleucyl-L-phenylalanyl-L-alanyl-L-cysteinyl- (9CI) (CA INDEX NAME)			

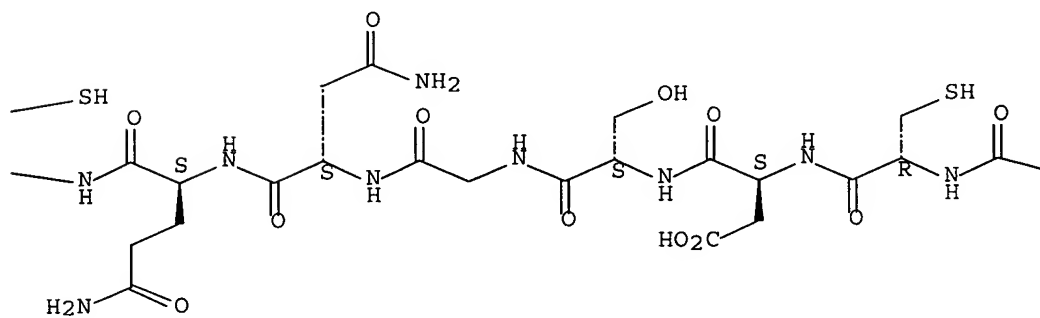
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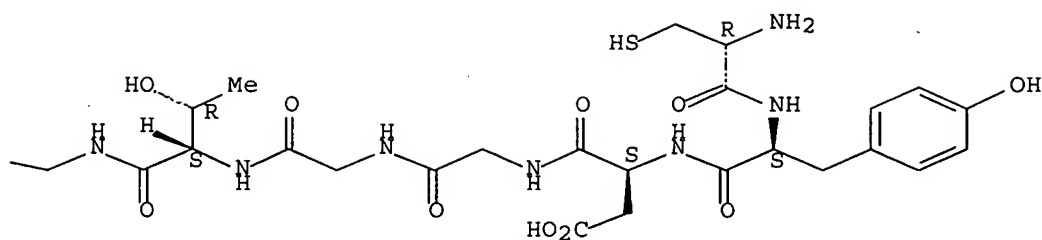
Absolute stereochemistry.

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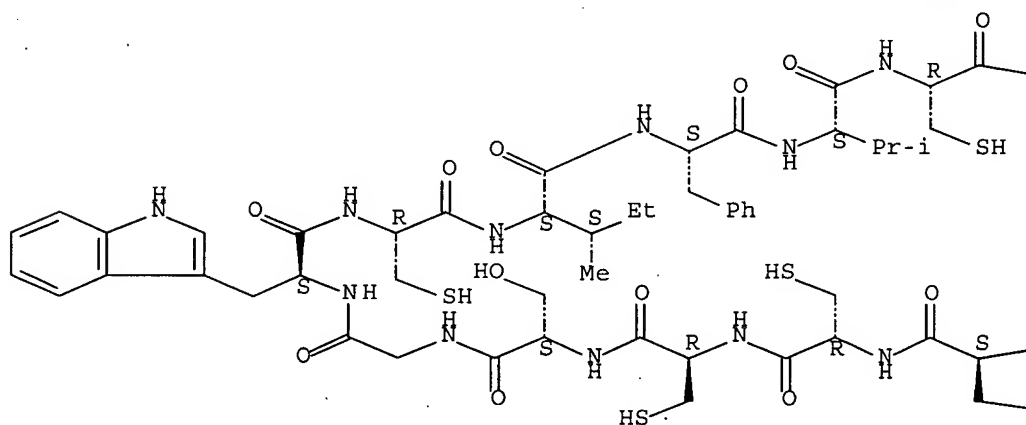


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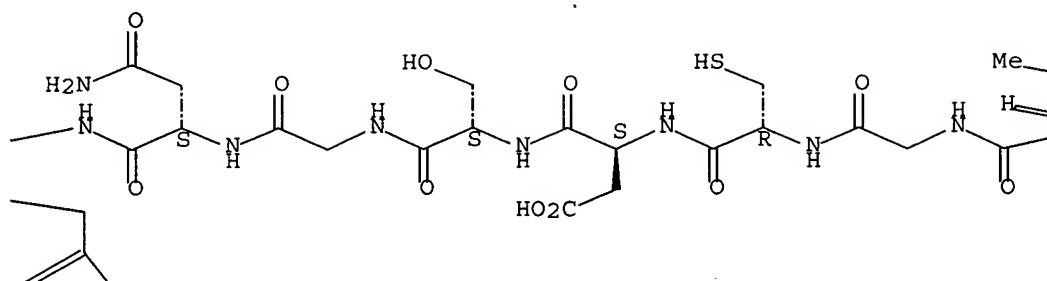
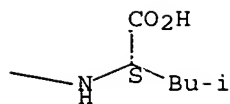
CN L-Leucine, L-cysteinyl-L-tyrosyl-L-α-aspartylglycylglycyl-L-threonylglycyl-L-cysteinyl-L-α-aspartyl-L-serylglycyl-L-asparaginyl-L-glutaminyl-L-cysteinyl-L-cysteine-L-serylglycyl-L-tryptophyl-L-cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-cysteine- (9CI) (CA INDEX NAME)

SEQ 1 CYDGGTGCDS GNQCCSGWCI FVCL

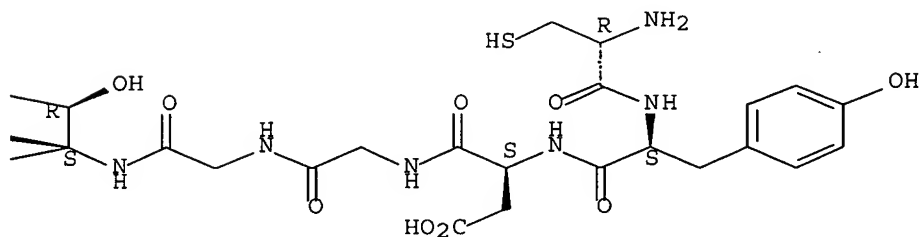
Absolute stereochemistry.



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RN 350227-43-9 CAPLUS

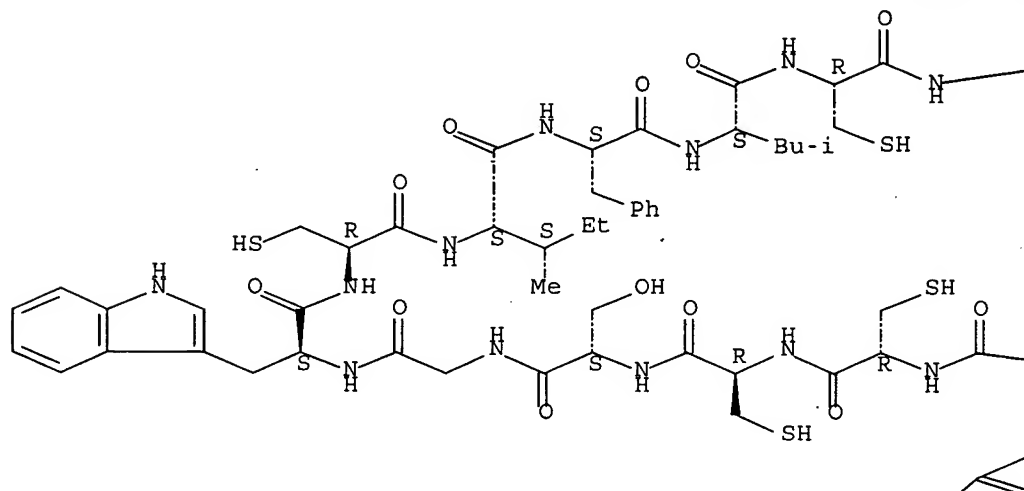
CN L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartylglycylglycyl-L-threonyl-  
L-seryl-L-cysteinyl-L-asparaginyl-L-threonylglycyl-L-asparaginyl-L-

glutaminyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-cysteinyl-  
L-isoleucyl-L-phenylalanyl-L-leucyl-L-cysteinyl- (9CI) (CA INDEX NAME)

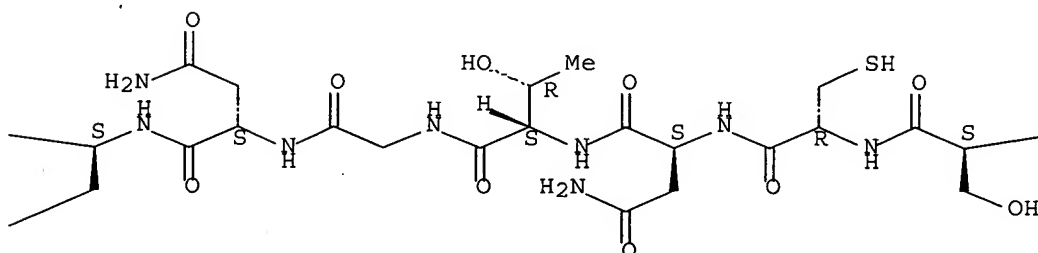
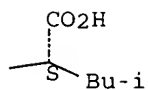
SEQ 1 CYDGGTSCNT GNQCCSGWCI FLCL

Absolute stereochemistry.

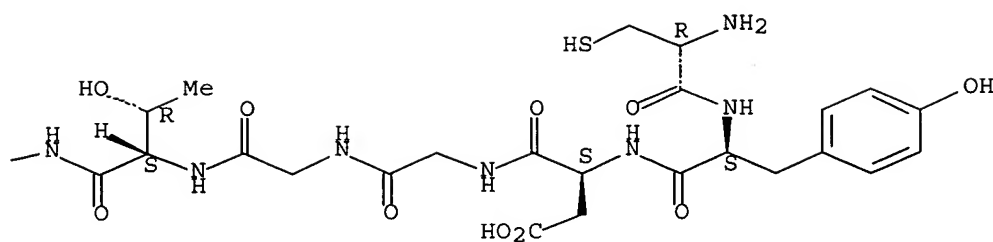
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H<sub>2</sub>N

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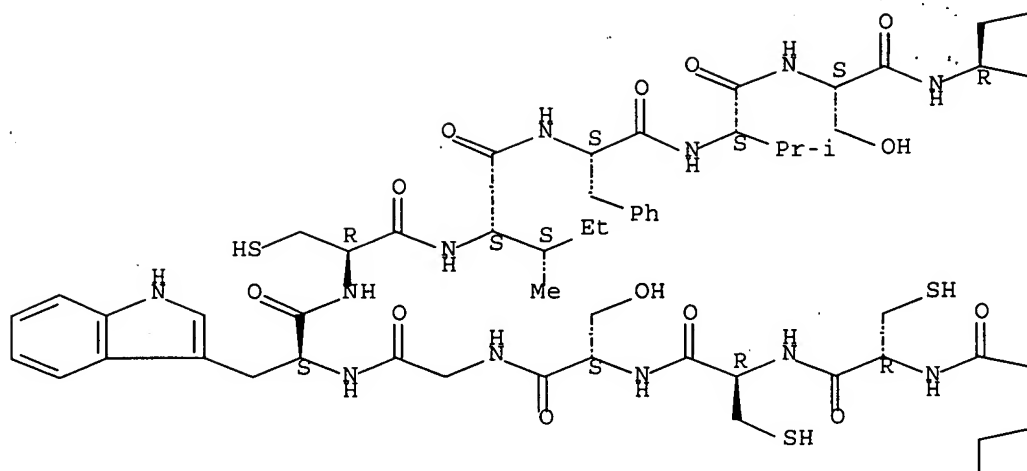
CN L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartyl-L-serylglycyl-L-threonyl-L-seryl-L-cysteinyl-L-asparaginyl-L-threonylglycyl-L-asparaginyl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-seryl-L-cysteinyl- (9CI)  
(CA INDEX NAME)

SEQ 1 CYDSGTSCNT GNQCCSGWCI FVSCL

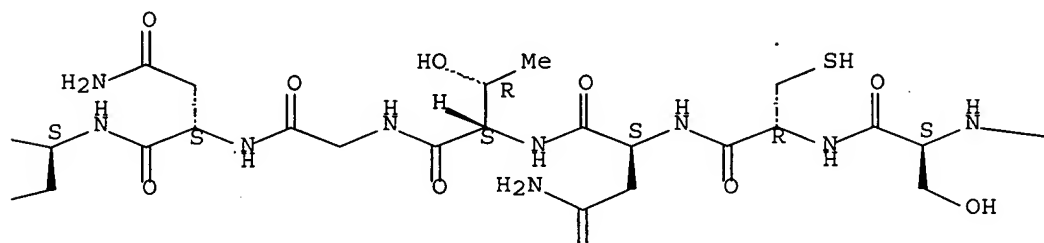
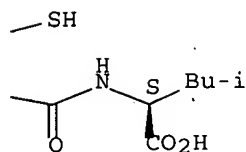
Absolute stereochemistry.



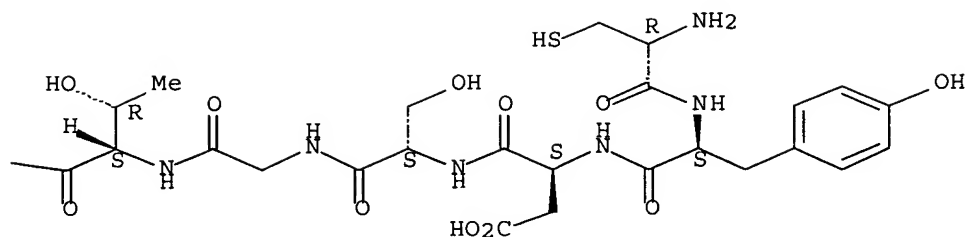
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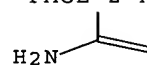
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RN 350262-97-4 CAPLUS  
 CN Conotoxin Gm6.2 (Conus gloriamaris precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCMMIVA VLFLTAWTFV TAVPHSSNAL ENLYLKAHHE MNNPEDSELN  
 51 KRCYDGGTGC DSGNQCCSGW CIFACL

RN 350501-43-8 CAPLUS  
 CN Conotoxin Gm6.2 (Conus gloriamaris) (9CI) (CA INDEX NAME)

SEQ 1 CXDGGTGCDs GNQCCSGXCI FACL

RN 350515-81-0 CAPLUS  
 CN Conotoxin Da6.1 (Conus dalli precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCIMIVA VLFLTAWTFV TAVPHSSNAL ENLYLKAHHE MNNPEDSELN  
 51 KRCYDGGTGC DSGNQCCSGW CIFVCL

RN 350515-87-6 CAPLUS  
 CN Conotoxin Af6.10 (Conus ammiralis precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCLMIVA VLFLTAWTFV TAVPDSSNAL ENLYLKAHHE MNNPEDSELN  
 51 KRCYDGGTSC NTGNQCCSGW CIFLCL

RN 350515-89-8 CAPLUS  
 CN Conotoxin Tx6.10 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCMMIVA VLFLTAWTFV TAAPHSSNAL ENLYLKAHHE MNNPEASELN  
 51 KRCYDSGTSC NTGNQCCSGW CIFVSCL

RN 350588-72-6 CAPLUS  
 CN Conotoxin Tx6.8 (Conus textile precursor C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 CRSTLEALEN LYLKAHHEMN NPEDSELNKR CYDSGTSCNT GNQCCSGWCI  
 51 FVCL

RN 350598-18-4 CAPLUS  
 CN Conotoxin Da6.1 (Conus dalli) (9CI) (CA INDEX NAME)

SEQ 1 CXDGGTGCDS GNQCCSGXCI FVCL

RN 350598-21-9 CAPLUS  
 CN Conotoxin Af6.10 (Conus ammiralis) (9CI) (CA INDEX NAME)

SEQ 1 CXDGGTSCNT GNQCCSGXCI FLCL

RN 350598-22-0 CAPLUS  
 CN Conotoxin Tx6.10 (Conus textile) (9CI) (CA INDEX NAME)

SEQ 1 CXDSGTSCNT GNQCCSGXCI FVSCL

RN 350598-84-4 CAPLUS  
 CN Conotoxin Tx6.8 (Conus textile) (9CI) (CA INDEX NAME)

SEQ 1 CXDSGTSCNT GNQCCSGXCI FVCL

L17 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:80751 CAPLUS Full-text

DOCUMENT NUMBER: 135:222087

TITLE: Mechanisms for evolving hypervariability: the case of conopeptides

AUTHOR(S): Conticello, Silvestro G.; Gilad, Yoav; Avidan, Nili; Ben-Asher, Edna; Levy, Zehava; Fainzilber, Mike

CORPORATE SOURCE: Laboratory of Molecular Neurobiology, Department of Biological Chemistry, Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, 76100, Israel

SOURCE: Molecular Biology and Evolution (2001), 18(2), 120-131  
CODEN: MBEVEO; ISSN: 0737-4038

PUBLISHER: Society for Molecular Biology and Evolution

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 05 Feb 2001

AB Hypervariability is a prominent feature of large gene families that mediate interactions between organisms, such as venom-derived toxins or Igs. In order to study mechanisms for evolution of hypervariability, we examined an EST-generated assemblage of 170 distinct conopeptide sequences from the venoms of five species of marine *Conus* snails. These sequences were assigned to eight gene families, defined by conserved elements in the signal domain and untranslated regions. Order-of-magnitude differences were observed in the expression levels of individual conopeptides, with five to seven transcripts typically comprising over 50% of the sequenced clones in a given species. The conopeptide precursor alignments revealed four striking features peculiar to the mature peptide domain: (1) an accelerated rate of nucleotide substitution, (2) a bias for transversions over transitions in nucleotide substitutions, (3) a position-specific conservation of cysteine codons within the hypervariable region, and (4) a preponderance of nonsynonymous substitutions over synonymous substitutions. We propose that the first three observations argue for a mutator mechanism targeted to mature domains in conopeptide genes, combining a protective activity specific for cysteine codons and a mutagenic polymerase that exhibits transversion bias, such as DNA polymerase V. The high Dn/Ds ratio is consistent with pos. or diversifying selection, and further analyses by intraspecific/interspecific gene tree contingency tests weakly support recent diversifying selection in the evolution of conopeptides. Since only the most highly expressed transcripts segregate in gene trees according to the feeding specificity of the species, diversifying selection might be acting primarily on these sequences. The combination of a targeted mutator mechanism to generate high variability with the subsequent action of diversifying selection on highly expressed variants might explain both the hypervariability of conopeptides and the large number of unique sequences per species.

IT 228104-05-0 354590-74-2 354590-75-3

354590-92-4 354590-94-6 354590-96-8

354590-97-9 354591-01-8 354591-02-9

354591-03-0 354591-04-1 354591-05-2

354591-06-3 354591-07-4 354591-08-5

354591-10-9 354591-11-0 354591-12-1

354591-13-2 354591-14-3 354799-20-5

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; conopeptide precursor hypervariability and evolution)

RN 228104-05-0 CAPLUS

CN  $\gamma$ -Conotoxin Tx6.5 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL VERAGENHSK ENINFLLRK RAADRGMWGE  
51 CKDGLTTCLA PSECCSEDCE GSCTMW

RN 354590-74-2 CAPLUS

CN Conotoxin (Conus textile clone TxMKLT1-0211 scaffold VI/VII precursor)  
(9CI) (CA INDEX NAME)

SEQ 1 MKLTCMMIVA VLFLTAWTFV TAVPHSSNAL ENLYLKAHHE MNNPEDSELN  
51 KRCYDGGTSC DSGIQCCSGW CIFVCL

RN 354590-75-3 CAPLUS

CN Conotoxin (Conus textile clone TxMKLT1-02121 scaffold VI/VII precursor)  
(9CI) (CA INDEX NAME)

SEQ 1 MKLTCMMIVA VLFLTAWTFV TAVPHSSNAL ENLYLKAHHE MNNPEDSELN  
51 KRCYDSGTSC NTGNQCCSGW CIFVCL

RN 354590-92-4 CAPLUS

CN Conotoxin (Conus ventricosus clone VnMEKL-0221 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMWTQAL IQEKRPKKEI KFLSKRKTTA ESWWEGECSG  
51 WSVYCTQHSE CCSGECTGNY CELF

RN 354590-94-6 CAPLUS

CN Conotoxin (Conus ventricosus clone VnMEKL-0223 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLTILLLV AAVLMSTQAL IKGGGEKRPK EKI KFLSKRK TTAESWWEGE  
51 CSGWSVYCTQ HSECCSGECT GNYCELF

RN 354590-96-8 CAPLUS

CN Conotoxin (Conus ventricosus clone VnMEKL-021 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLTILLLV AAVLMSTQAL IKGGGEKRPK EKI KFLSKRR TNAERWWEGD  
51 CTGWLDGCTS PAECCTAVCD ATCKLW

RN 354590-97-9 CAPLUS

CN Conotoxin (Conus ventricosus clone VnMEKL-024 precursor) (9CI) (CA INDEX NAME)

NAME)

SEQ 1 MQKLTILLLV AAVLMSTQAL IRGGVEKRQE AKRNFFSKRK TTAESWWEGE  
51 CRTWYAPCNF PSQCCSEVCS SKTGRCLTW

RN 354591-01-8 CAPLUS  
CN Conotoxin (Conus tessulatus clone TsMEKL-P012 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 MEKLTILLLV AAVLVLAQAL IKKGGGEKRQ KEKINFLSKR KTTAESWWE  
51 ECSGWSVYCT SDPECCSGEC SSYYCELW

RN 354591-02-9 CAPLUS  
CN Conotoxin (Conus tessulatus clone TsMEKL-011 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL IQRGGAKRRK VNFFSIREPG AEDWREGNCT  
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RN 354591-03-0 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-011 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL VERAGENRSK ENIKFLLK RK RAADRGMWGK  
51 CKDGLTTCLA PSECCSGNCE QNCKMW

RN 354591-04-1 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-022 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 MEKLTILLLV AVVLMSTQAL PQGGGEKRPR ENIRFLSKRK SNAERWREGS  
51 CTSWLATCTD ASQCCTGV CY KRAYCALWE

RN 354591-05-2 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-031 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAM FQGDGEKSRK AEINFSETRK LARNKQKRCG  
51 GYSTYCEVDS ECCSDNCVRS YCTLFG

RN 354591-06-3 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-034 precursor) (9CI) (CA INDEX

Energy of NAME) Conotoxin sp. 10/647519 10/647519 10/647519 10/647519 10/647519 10/647519 10/647519 10/647519 10/647519 10/647519

SEQ 1 MEKLTILLLV AAVLMSTQAM FQEKSRKAEI NFSETRKLAR NKQKRCGGYS  
51 TYCEVDSECC SDNCVRSYCT LFG

RN 354591-07-4 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-04111 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLLV AAVLMSAQAV LQEKRPKEKI KFLSKRKTDA EKQQKRLCPD  
51 YTEPCSHAHE CCSWNCYNHG CTG

RN 354591-08-5 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-0421 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MQKLIILLLV AAVLMSTQAV LQEKRPKEKI KFLSKRKTDA EKQQKRLCPD  
51 YTDPCSHAHE CCSWNCYNHG CTG

RN 354591-10-9 CAPLUS  
CN Conotoxin (Conus textile clone TxMEKL-0511 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLLSIQAL NQEKHQRAKI NLLSKRKPPA ERWWRWGGCM  
51 AWFGLCSKDS ECCSNCDVT RCELMPFPPD W

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CN Conotoxin (Conus textile clone TxMEKL-053 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL NQEQHQRAKI NLLSKRKPPA ERWWECDGIWF  
51 SRCTKDSECC SNSCDQTYCE LMPFPPDW

RN 354591-12-1 CAPLUS  
CN Conotoxin (Conus pennaceus clone PnMEKL-011 precursor) (9CI) (CA INDEX NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAA NQEQRQAKI NFLSKRKPSA ERWRRDCTSW  
51 FGRCTVNSEC CSNSCDQTYC ELYAFPSFGA

RN 354591-13-2 CAPLUS  
CN Conotoxin (Conus pennaceus clone PnMEKL-032 precursor) (9CI) (CA INDEX NAME)

NAME)

SEQ 1 MQKLIILLLV AAVLMSTQAL FQEKRLKEKI NFLSKEKADA EKQKRYCSD  
51 QWKSCSY PHE CCRWSCNRYC A

RN 354591-14-3 CAPLUS

CN Conotoxin (Conus pennaceus clone PnMEKL-04 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 MEKLTILLLV AAVLMSTQAL PQGGGENRLK ENIKFLLKRK TAADRGMWGD  
51 CDDWLAAC TT PSQCCTEVCD GFCRLWE

RN 354799-20-5 CAPLUS

CN Conotoxin (Conus tessulatus clone TsMEKL-03 precursor) (9CI) (CA INDEX  
NAME)

SEQ 1 VILLMSTQAL IQSGVEKRSN KIKALSKRKT TAESWWE GEC YGWWTSCSSP  
51 EQCCSLNCEN IYCRAW

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:618841 CAPLUS Full-text

DOCUMENT NUMBER: 134:52103

TITLE: Evolutionary diversification of multigene families:  
allelic selection of toxins in predatory cone snails

AUTHOR(S): Duda, Thomas F., Jr.; Palumbi, Stephen R.

CORPORATE SOURCE: Department of Organismic and Evolutionary Biology,  
Biological Laboratories, Harvard University, USA

SOURCE: Molecular Biology and Evolution (2000), 17(9),  
1286-1293

CODEN: MBEVEO; ISSN: 0737-4038

PUBLISHER: Society for Molecular Biology and Evolution

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 06 Sep 2000

AB In order to investigate the evolution of conotoxin multigene families among two closely related vermivorous *Conus* species, the authors sequenced 104 four-loop conotoxin mRNAs from two individuals of *Conus ebraeus* and compared these with sequences already obtained from *Conus abbreviatus*. In contrast to the diversity of conotoxin sequences obtained from *C. abbreviatus*, only two common sequence variants were recovered from *C. ebraeus*. Segregation patterns of the variants in these two individuals and restriction digests of four-loop conotoxin amplification products from nine addnl. individuals suggest that the common variants are alleles from a single locus. These two putative alleles differ at nine positions that occur nonrandomly in the toxin-coding region of the sequences. Moreover, all substitutions are at nonsynonymous sites and are responsible for seven amino acid differences among the predicted amino acid sequences of the alleles. These results imply that conotoxin diversity is driven by strong diversifying selection and some form of frequency-dependent



Moreover, dominant selection at conotoxin loci, and they suggest that diverse or overdominant conotoxin multigene families can originate from duplications at polymorphic loci. Furthermore, none of the sequences recovered from *C. ebraeus* appeared to be orthologs of loci from *C. abbreviatus*, and attempts to amplify orthologous sequences with locus-specific primers were unsuccessful among these species. These patterns suggest that venoms of closely related *Conus* species may differ due to the differential expression of conotoxin loci.

IT 313236-93-0 313236-94-1 313237-00-2  
313237-01-3 313237-02-4 313237-03-5  
313237-04-6 313237-05-7 313237-06-8  
313237-07-9 313237-08-0 313237-09-1  
313237-10-4 313237-12-6

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; evolutionary diversification of multigene families: allelic selection of toxins in predatory cone snails)

RN 313236-93-0 CAPLUS

CN Conotoxin (Conus ebraeus isolate CebH1-a four-loop precursor) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTHSGGAC  
51 NSHDQCCNAF CDTATRTC

RN 313236-94-1 CAPLUS

CN Conotoxin (Conus ebraeus isolate CebH1-b four-loop precursor) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECAHSGGAC  
51 NSHDQCCNAF CDTATRTC

RN 313237-00-2 CAPLUS

CN Conotoxin (Conus ebraeus isolate CebH1-e four-loop precursor) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNPKWT RECTHSGGAC  
51 NSHDQCCNAF CDTATRAC

RN 313237-01-3 CAPLUS

CN Conotoxin (Conus ebraeus isolate CebH1-h four-loop precursor) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLLLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTHSGGAC  
51 NSHDQCCNAF CDTATRTC

RN 313237-02-4 CAPLUS

CN Conotoxin (Conus ebraeus isolate CebH2-a four-loop precursor) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTHSGGAC  
51 NSHDQCCNTF CDTATRTC

RN 313237-03-5 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-b four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHDQCCNAF CDTATRTC

RN 313237-04-6 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-c four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTHSGGAC  
51 NSHNQCCNAF CDTATRTC

RN 313237-05-7 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-d four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTHSGGAC  
51 NSHTQCCDDF CSTATSTCI

RN 313237-06-8 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-e four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHTQCCDDF CSTATSTCI

RN 313237-07-9 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-g four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGKQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHTQCCDDF CSTATSTCI

RN 313237-08-0 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-h four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHTQCCDDF CDTATRTC

RN 313237-09-1 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-i four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHTQCCNAF CDTATRTC

RN 313237-10-4 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-R1 four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHTQCCDDF CSTATSTCI

RN 313237-12-6 CAPLUS  
CN Conotoxin (Conus ebraeus isolate CebH2-R2 four-loop precursor) (9CI) (CA  
INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETY SRGRQKHRAR RSTDKNSKWT RECTRSGGAC  
51 NSHTQCCDDF CSTATSTCI

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 24 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2000:600769 CAPLUS Full-text  
DOCUMENT NUMBER: 133:173033  
TITLE: Protein and cDNA sequences of Conus conotoxins  
and therapeutic uses thereof  
INVENTOR(S): Lu, Baisong; Huang, Peitang  
PATENT ASSIGNEE(S): Biological Engineering Inst., Academy of Military  
Medicine Sciences, CPLA, Peop. Rep. China  
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 20 pp.  
CODEN: CNXXEV  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1237584.	A	19991208	CN 1999-106070	19990430
PRIORITY APPLN. INFO.:			CN 1999-106070	19990430
ED Entered STN: 30 Aug 2000				

AB The invention provides protein and cDNA sequences of fourteen conotoxins derived from *Conus textile* and *Conus striatus*. One of the fourteen conotoxins is  $\omega$ -conotoxin that shows analgesic activity, and could be used as analgesics.

IT 254856-57-0, Conotoxin Tx02 (*Conus textile* precursor)

254856-58-1, Conotoxin Tx03 (*Conus textile* precursor)

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)

(amino acid sequence; protein and cDNA sequences of *Conus* conotoxins and therapeutic uses thereof)

RN 254856-57-0 CAPLUS

CN Conotoxin Tx02 (*Conus textile* precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 254856-58-1 CAPLUS

CN Conotoxin Tx03 (*Conus textile* precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 254748-07-7P 254748-09-9P

RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)

(peptide sequence; protein and cDNA sequences of *Conus* conotoxins and therapeutic uses thereof).

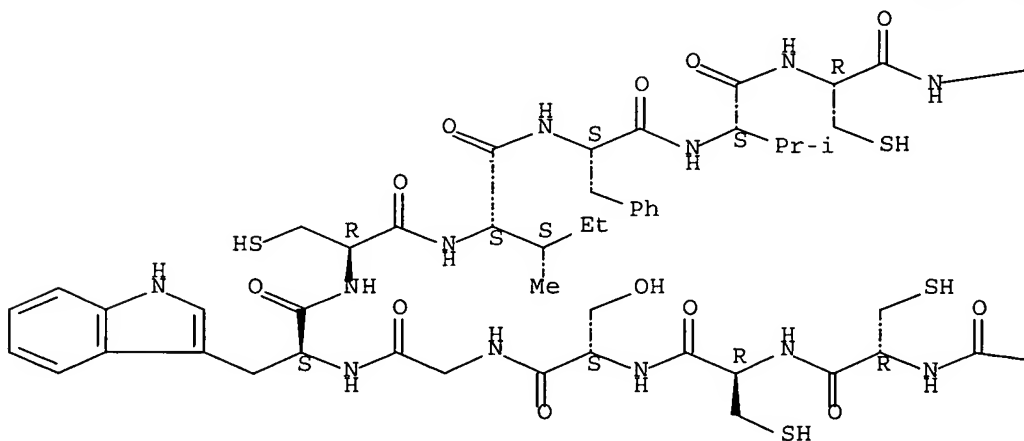
RN 254748-07-7 CAPLUS

CN L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartyl-L-serylglycyl-L-threonyl-L-seryl-L-cysteinyl-L-asparaginyl-L-threonylglycyl-L-asparaginyl-L-glutaminyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-cysteinyl- (9CI) (CA INDEX NAME)

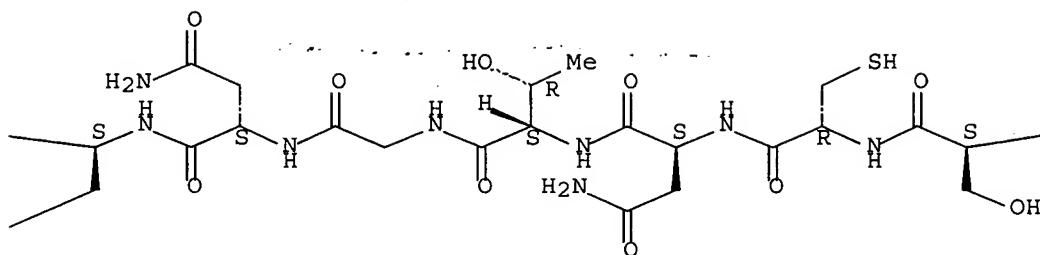
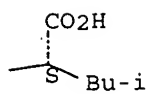
SEQ 1 CYDSGTSCNT GNQCCSGWCI FVCL

Absolute stereochemistry.

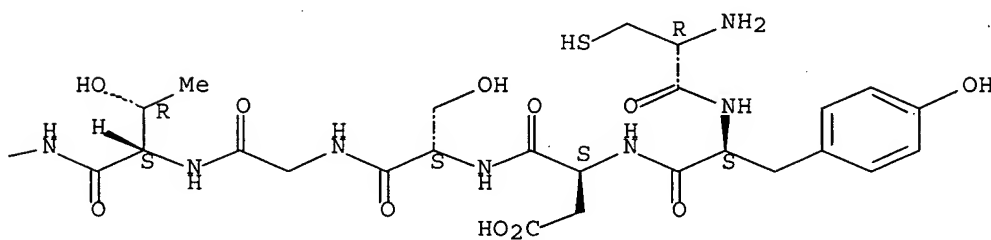
PAGE 1-A



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PAGE 1-C



PAGE 2-A

 $\text{H}_2\text{N}$ 

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RN 254748-09-9 CAPLUS

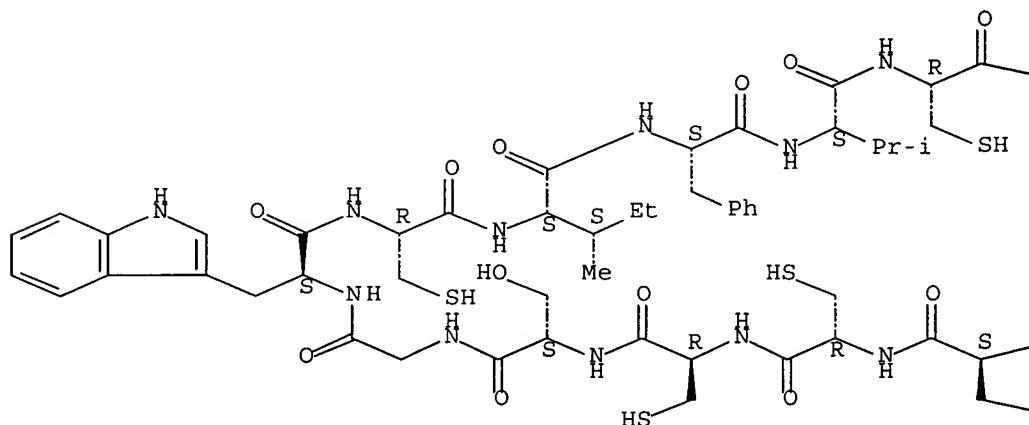
CN L-Phenylalanine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartylglycylglycyl-L-

threonyl-L-seryl-L-cysteinyl-L-aspartyl-L-serylglycyl-L-isoleucyl-  
 L-glutamyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-  
 cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-cysteinyl- (9CI) (CA INDEX  
 NAME)

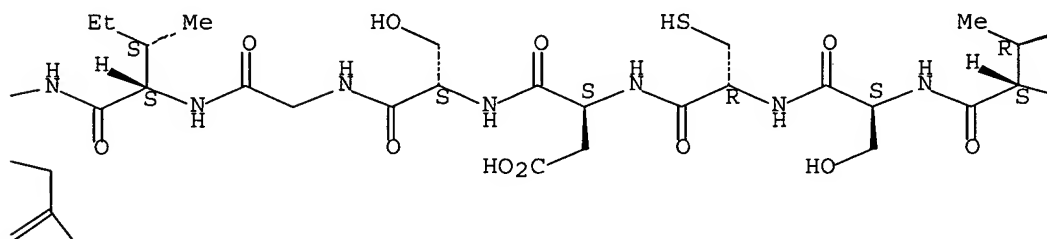
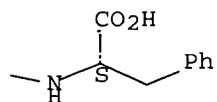
SEQ 1 CYDGGTSCDS GIQCCSGWCI FVCF

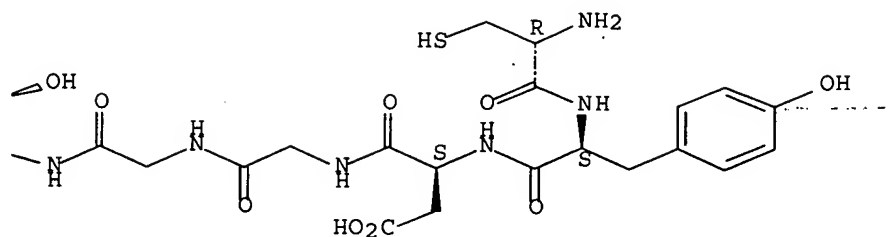
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





PAGE 2-A

PAGE 2-B

NH<sub>2</sub>

L17 ANSWER 25 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:449929 CAPLUS Full-text  
 DOCUMENT NUMBER: 133:318679  
 TITLE: Multiple bromotryptophan and  $\gamma$ -carboxyglutamate residues in a Conus peptide  
 AUTHOR(S): Lirazán, Marcelina B.; Craig, A. Grey; Shetty, Reshma; Walker, Craig S.; Olivera, Baldomero M.; Cruz, Lourdes J.  
 CORPORATE SOURCE: Department of Physical Sciences and Mathematics, University of the Philippines Manila, Manila, Philippines  
 SOURCE: Philippine Journal of Science (1999), 128(3), 239-246  
 CODEN: PJSCAK; ISSN: 0031-7683  
 PUBLISHER: Science and Technology Information Institute, Dep. of Science and Technology  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 05 Jul 2000  
 AB A novel peptide was purified from Conus textile venom which caused hyperactivity in mice. The 31-amino acid peptide has six residues with unusual post-translational modifications: four  $\gamma$ -carboxyglutamates and two brominated tryptophan residues. This peptide, which we have designated the dibromorunning peptide, is the first known gene product with multiple bromotryptophan residues. We discuss the apparent non-random association of  $\gamma$ -carboxyglutamate and bromotryptophan in Conus peptides.

265109-49-7

RL- BOC (Biological occurrence); ESO (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)  
 (multiple bromotryptophan and carboxyglutamate residues in a Conus peptide)

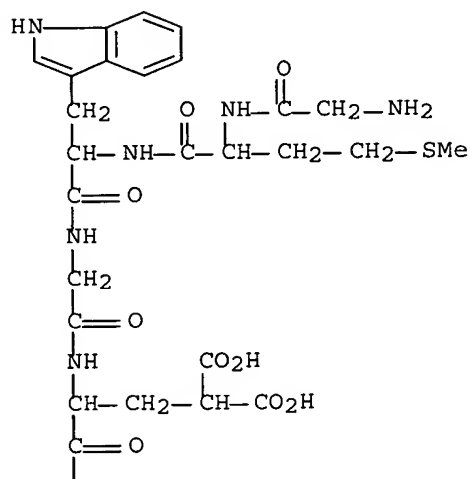
RN 265109-49-7 CAPLUS

CN L-Tryptophan, glycyl-L-methionyl-ar-bromo-L-tryptophylglycyl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl-(4R)-4-hydroxy-L-prolyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-cysteinyl-4-carboxy-L- $\alpha$ -glutamylglycyl-L-seryl-L-cysteinyl-L-threonyl-L-methionyl-ar-bromo-(9CI) (CA INDEX NAME)

NTE modified (modifications unspecified)

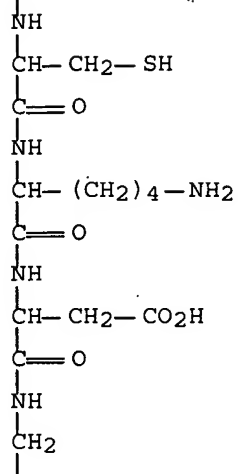
SEQ 1 GMWGXCKDGL TTCLAXSXCC SXDCXGSCTM W

PAGE 1-A

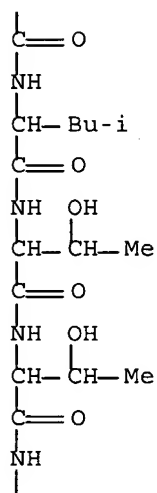


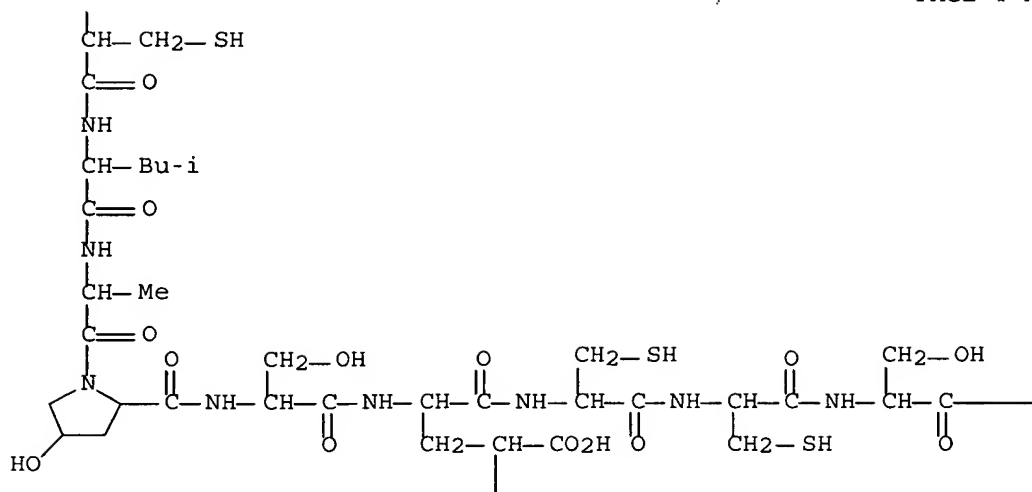


PAGE 2-A

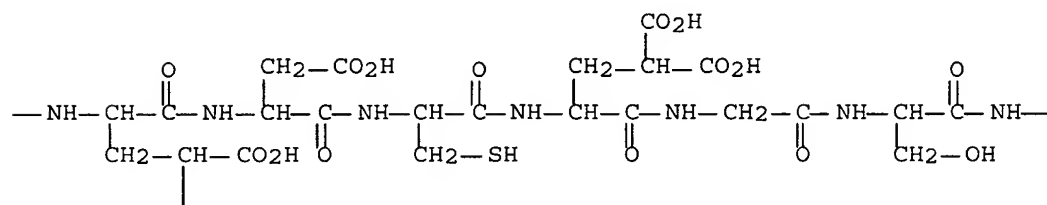


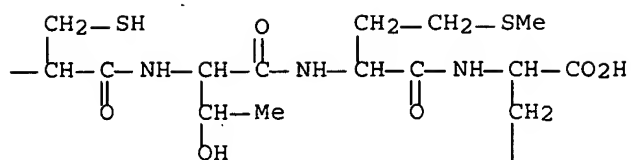
PAGE 3-A





PAGE 4 - B

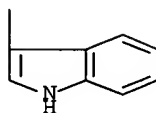



$$\text{CO}_2\text{H}$$

2 ( D1—Br )

$$\text{CO}_2\text{H}$$

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L17 ANSWER 26 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2000:119384 CAPLUS Full-text  
DOCUMENT NUMBER: 132:304501  
TITLE: Structure determination of two conotoxins

from Conus textile by a combination of matrix-assisted laser desorption/ionization time-of-flight and electrospray ionization mass spectrometry and biochemical methods

AUTHOR(S): Kalume, Dario E.; Stenflo, Johan; Czerwiec, Eva; Hambe, Bjorn; Furie, Barbara C.; Furie, Bruce; Roepstorff, Peter

CORPORATE SOURCE: Department of Molecular Biology, University of Southern Denmark, Odense University, Odense, DK-5230, Den.

SOURCE: Journal of Mass Spectrometry (2000), 35(2), 145-156  
CODEN: JMSPFJ; ISSN: 1076-5174

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 21 Feb 2000

AB Two highly modified conotoxins from the mollusk Conus textile,  $\epsilon$ -TxIX and Gla(1)-TxVI, were characterized by matrix-assisted laser desorption/ionization and electrospray mass spectrometry and also by electrospray ionization tandem and triple mass spectrometry in combination with enzymic cleavage and chemical modification reactions. The mass spectrometric studies allowed the confirmation of the sequence determined by Edman degradation and assignment of unidentified amino acid residues, among which bromotryptophan residues and an O-glycosylated threonine residue were observed. Methylation was found necessary for the site-specific assignment of the Gla residues in the peptides.

IT 265109-49-7

RL: PRP (Properties)

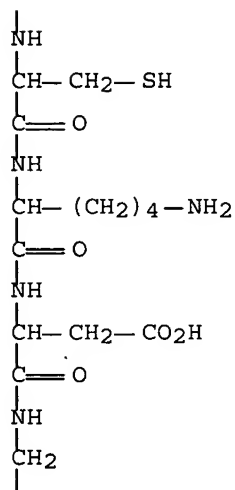
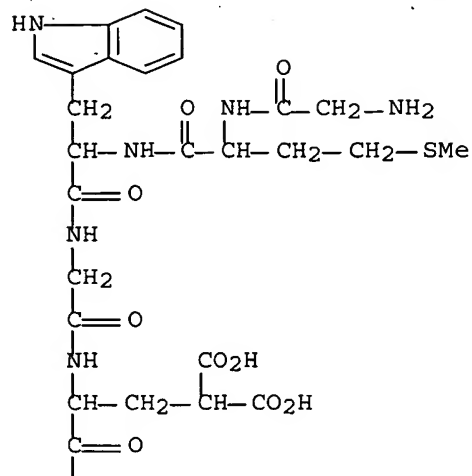
(from Conus textile venom; structure determination of two conotoxins from Conus textile by a combination of matrix-assisted laser desorption/ionization time-of-flight and electrospray ionization mass spectrometry and biochem. methods)

RN 265109-49-7 CAPLUS

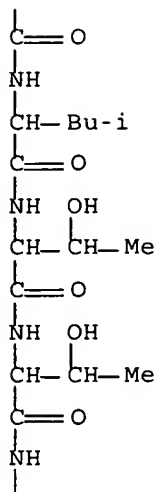
CN L-Tryptophan, glycyl-L-methionyl-ar-bromo-L-tryptophylglycyl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-lysyl-L- $\alpha$ -aspartylglycyl-L-leucyl-L-threonyl-L-threonyl-L-cysteinyl-L-leucyl-L-alanyl-(4R)-4-hydroxy-L-prolyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-cysteinyl-4-carboxy-L- $\alpha$ -glutamylglycyl-L-seryl-L-cysteinyl-L-threonyl-L-methionyl-ar-bromo-(9CI) (CA INDEX NAME)

NTE modified (modifications unspecified)

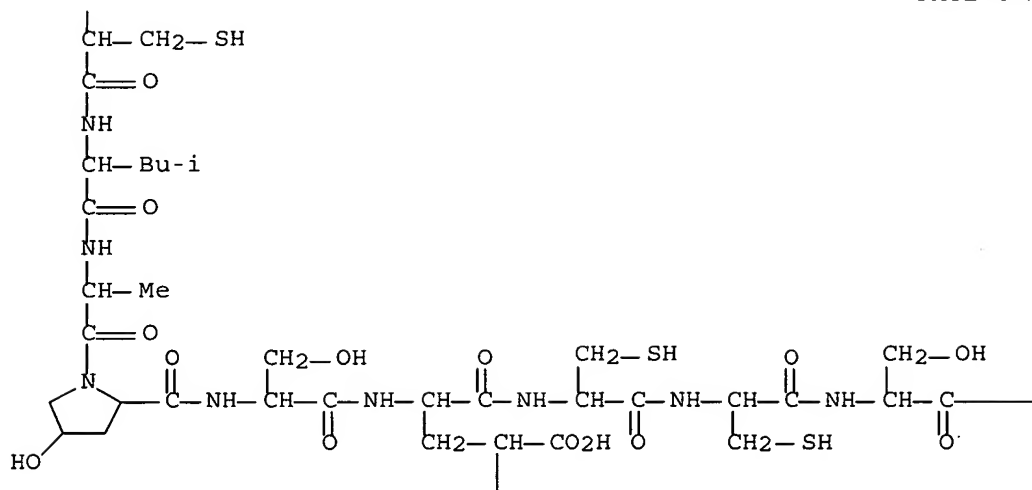
SEQ 1 GMWGXCKDGL TTCLAXSXCC SXDCXGSC TM W

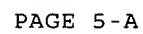
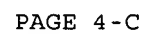


PAGE 3 A

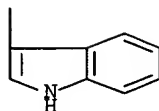


PAGE 4 - A





139

CO<sub>2</sub>H

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 27 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:45761 CAPLUS Full-text

DOCUMENT NUMBER: 132:233186

TITLE: Cloning of o-family conotoxin sequences from Conus textile venom duct

AUTHOR(S): Yu, Fang; Lu, Baisong; Zhao, Dong; Huang, Peitang

CORPORATE SOURCE: Beijing Institute of Biotechnology, Beijing, 100071, Peop. Rep. China

SOURCE: Zhongguo Shengwu Huaxue Yu Fenzi Shengwu Xuebao (1999), 15(6), 853-856

CODEN: ZSHXF2; ISSN: 1007-7626

PUBLISHER: Zhongguo Shengwu Huaxue Yu Fenzi Shengwu Xuebao Bianweihui

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 20 Jan 2000

AB Omega-conotoxins are specific blocks of voltage-sensitive calcium channels, and a. group of most important toxins of conotoxins. Recent studies have found that there are more than ten small peptides with biol. activity from Conus textile venom duct. But, only several of them have been sequenced. Objective is to obtain new conotoxin sequences from Conus textile picked from south ocean of our country and study the potential usage of conotoxin. Using primers corresponding to conserved signal peptide coding region and oligo(dT) which bound to the poly(A) tracts on eukaryotic mRNA, and omega-conotoxin coding cDNA was RACE-PCR amplified. Six new conotoxin sequences were found. The predicted mature peptide sequences belonged to conserved cysteine frame C-C-CC-C-C. A number of new conotoxins were sequenced and this set the foundation for further investigating their biol. activity and application.

IT 254856-57-0, Conotoxin Tx02 (Conus textile precursor)

254856-58-1, Conotoxin Tx03 (Conus textile precursor)

RL: PRP (Properties)

(amino acid sequence; cloning of o-family conotoxin sequences from Conus textile venom duct)

RN 254856-57-0 CAPLUS

CN Conotoxin Tx02 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCVVIVA VLFLTAWTFV TAAPHSSNAL ENLYLKAHHE MNNPEDSELN  
51 KRCYDSGTSC NTGNQCCSGW CIFVCL



RN 254856-58-1 CAPLUS  
 CN Conotoxin Tx03 (Conus textile precursor) (9CI) (CA INDEX NAME)

SEQ 1 MKLTCVVIVA VLFLTAWTFV TAVPHSSNAL ENLYLKAHHE MNNPEASELN  
 51 KRCYDGGTSC DSGIQCCSGW CIFVCF

L17 ANSWER 28 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:704395 CAPLUS Full-text

DOCUMENT NUMBER: 132:89378

TITLE: **Conopeptides** from *Conus striatus* and *Conus textile* by cDNA cloning

AUTHOR(S): Bai-Song, L.; Fang, Y.; Dong, Z.; Pei-Tang, H.;  
 Cui-Fen, H.

CORPORATE SOURCE: Institute of Biotechnology, Beijing, Peop. Rep. China  
 SOURCE: Peptides (New York) (1999), 20(10), 1139-1144

CODEN: PPTDD5; ISSN: 0196-9781

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 04 Nov 1999

AB Conopeptide content in *Conus textile* and *Conus striatus* venoms were examined by polymerase chain reaction amplification of  $\alpha$ -conopeptide cDNA and rapid amplification of 3' cDNA ends of O-superfamily conopeptide cDNA. Two new  $\alpha$ -conopeptide sequences and six new O-superfamily conopeptide sequences from *C. textile*, four new O-superfamily conopeptide sequences, and four previously biochem. characterized conopeptide sequences from *C. striatus* were identified. The results suggest that this cDNA method is rapid and requires less material for the study of conopeptides.

IT 254856-57-0, Conotoxin Tx02 (Conus textile precursor)

254856-58-1, Conotoxin Tx03 (Conus textile precursor)

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)

(amino acid sequence; **conopeptides** from *Conus striatus* and  
*Conus textile* by cDNA cloning)

RN 254856-57-0 CAPLUS

CN Conotoxin Tx02 (Conus textile precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 254856-58-1 CAPLUS

CN Conotoxin Tx03 (Conus textile precursor) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 254748-07-7

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)

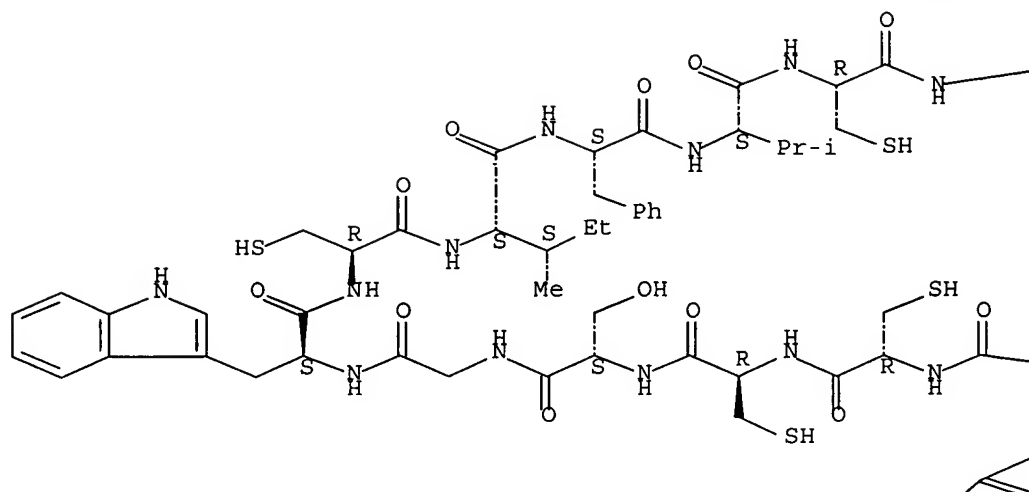
(conotoxin Tx02; **conopeptides** from *Conus striatus*  
 and *Conus textile* by cDNA cloning)

RN 254748-07-7 CAPLUS

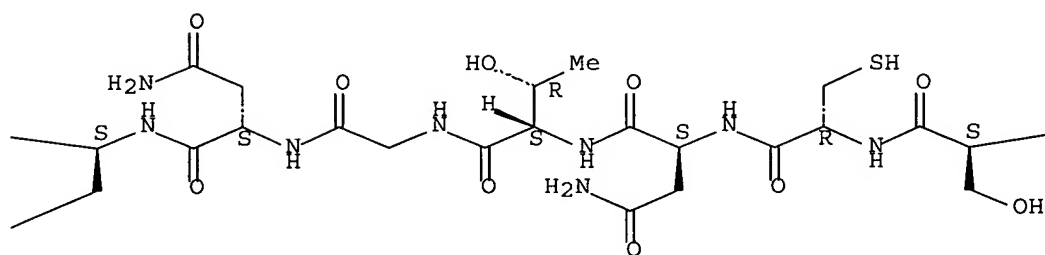
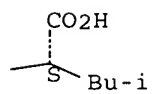
CN L-Leucine, L-cysteinyl-L-tyrosyl-L- $\alpha$ -aspartyl-L-serylglycyl-L-  
 threonyl-L-seryl-L-cysteinyl-L-asparaginyll-L-threonylglycyl-L-asparaginyll-  
 L-glutaminyll-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-tryptophyl-L-  
 cysteinyl-L-isoleucyl-L-phenylalanyl-L-valyl-L-cysteinyl- (9CI) (CA INDEX  
 NAME)

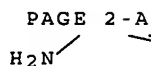
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

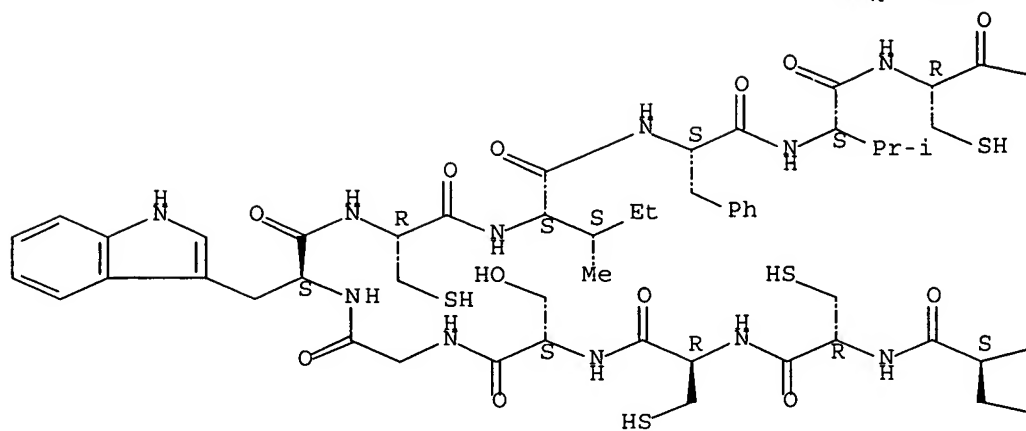




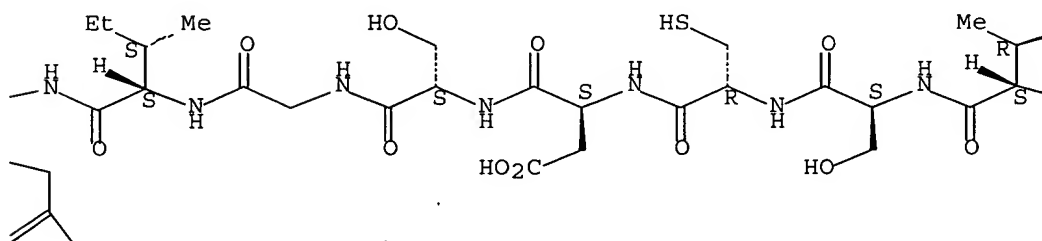
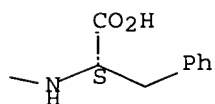
PAGE 2 - B

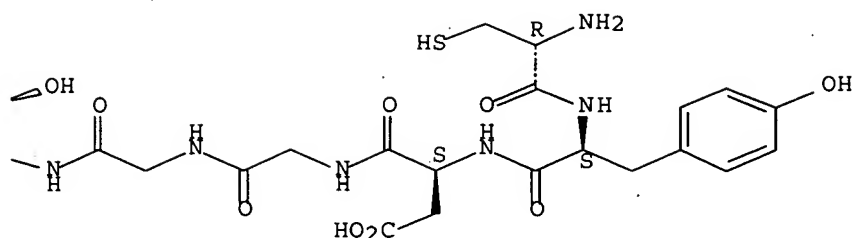
143

PAGE 1-A



PAGE 1-B





PAGE 2-A



PAGE 2-B



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:461733 CAPLUS Full-text

DOCUMENT NUMBER: 131:226346

TITLE: Molecular genetics of ecological diversification: duplication and rapid evolution of toxin genes of the venomous gastropod *Conus*

AUTHOR(S): Duda, Thomas F., Jr.; Palumbi, Stephen R.

CORPORATE SOURCE: Department of Organismic and Evolutionary Biology, Biological Laboratories, Harvard University, Cambridge, MA, 02138, USA

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1999), 96(12), 6820-6823  
CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Jul 1999

AB Predatory snails in the marine gastropod genus *Conus* stun prey by injecting a complex mixture of peptide neurotoxins. These conotoxins are associated with trophic diversification and block a diverse array of ion channels and neuronal receptors in prey species, but the evolutionary genesis of this functional diversity is unknown. Here we show that conotoxins with little amino acid similarity are in fact products of recently diverged loci that are rapidly evolving by strong pos. selection in the vermivorous cone, *Conus abbreviatus*,

and that the rate of conotoxin evolution is higher than that of most other known proteins. Gene duplication and diversifying selection result in the formation of functionally variable conotoxins that are linked to ecol. diversification and evolutionary success of this genus.

IT 243644-55-5 243644-57-7 243644-58-8  
243644-91-9 243644-92-0 243662-02-4

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; mol. genetics of ecol. diversification: duplication and rapid evolution of toxin genes of venomous gastropod Conus)

RN 243644-55-5 CAPLUS

CN Conotoxin ABVII (Conus abbreviatus clone 1-13 four-loop C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETS SRGKQNHRL RSTDKNSRMT KRCTPAGDAC  
51 DATTECCILF CNLATKKCQV PTFP

RN 243644-57-7 CAPLUS

CN Conotoxin ABVII (Conus abbreviatus clone 1-26 four-loop C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ARQLTTAETS SRGKQKHRAL RSTDKNSRMT KRCTPAGDAC  
51 DATTECCILF CNLATKKCQV PTFP

RN 243644-58-8 CAPLUS

CN Conotoxin ABVIJ (Conus abbreviatus clone 1-44 four-loop C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLA ACQLTTAETS SRGKQKHRAL RSTDKNSRMT KRCTPAGDAC  
51 DATTECCILF CNLATKECQV PAFP

RN 243644-91-9 CAPLUS

CN Conotoxin ABVIK (Conus abbreviatus clone 1-54 four-loop C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETS SRGKQKHRAL RSTDKNSRMT KRCTPAGGAC  
51 DATTECCILF CNLATKKCQV PTFP

RN 243644-92-0 CAPLUS

CN Conotoxin ABVII (Conus abbreviatus clone 1-1 four-loop C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETS SRGKQKHRAL RSTDKNSRMT KRCTPAGDAC  
51 DATTECCILF CNLATKKCQV PTFP

RN 243662-02-4 CAPLUS  
 CN Conotoxin ABVIE (Conus abbreviatus clone 1-84 four-loop C-terminal fragment) (9CI) (CA INDEX NAME)

SEQ 1 VLIIAVLFLT ACQLTTAETS SRGKQKHRAL RSTDKYSRMT KHCTPPEVGC  
 51 LFAYECCSKI CWRPRCYPs

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:71588 CAPLUS Full-text

DOCUMENT NUMBER: 130:262928

TITLE: Sequence and analysis of the genome of a baculovirus pathogenic for *Lymantria dispar*

AUTHOR(S): Kuzio, John; Pearson, Margot N.; Harwood, Steve H.; Funk, C. Joel; Evans, Jay T.; Slavicek, James M.; Rohrmann, George F.

CORPORATE SOURCE: National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, MD, 20894, USA

SOURCE: Virology (1999), 253(1), 17-34

CODEN: VIRLAX; ISSN: 0042-6822

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 03 Feb 1999

AB The genome of the *Lymantria dispar* multinucleocapsid nucleopolyhedrovirus (LdMNPV) was sequenced and analyzed. It is composed of 161,046 bases with a G + C content of 57.5% and contains 163 putative open reading frames (ORFs) of  $\geq 150$  nucleotides. Homologs were found to 95 of the 155 genes predicted for the *Autographa californica* MNPV (AcMNPV) genome. More than 9% of the LdMNPV genome was occupied by 16 repeated genes related to AcMNPV ORF2. Readily identifiable homologs of several genes that have been reported to play important roles in the AcMNPV life cycle are not present; these include ie-2, a transcriptional transactivator, and gp64, a major envelope glycoprotein of the nonoccluded form of the virus. A number of genes lacking in AcMNPV but present in other baculoviruses were identified; these include two viral enhancing factor homologs, a second copy of a conotoxin-like gene, and a dUTPase homolog. Although a single gene predicted to encode a large subunit of ribonucleotide reductase was found, two different copies of the small subunit gene were present. In addition, homologs of genes not previously reported for baculoviruses were identified, including a predicted protein with homol. to DNA ligases and another that has motifs most closely related to a yeast mitochondrial helicase. Thirteen homologous regions (hrs) containing 54 repeated sequences that include 30-bp imperfect palindromes were identified. The imperfect palindromes are related to those from other baculoviruses. (c) 1999 Academic Press.

IT 222184-70-5

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; sequence and anal. of genome of baculovirus pathogenic for *Lymantria dispar*)

RN 222184-70-5 CAPLUS

CN Conotoxin-like protein (*Lymantria dispar* nucleopolyhedrovirus pen reading frame ORF149) (9CI) (CA INDEX NAME)

SEQ 1 MHLKSVLLIV ATFVALNAQR ALAACADTGA VCVHSDECCS GALSPPVFNVC  
51 LPQ

REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 31 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:56257 CAPLUS Full-text

DOCUMENT NUMBER: 128:111763

TITLE:  $\gamma$ -Conotoxin-PnVIIA, A

$\gamma$ -Carboxyglutamate-Containing Peptide Agonist of  
Neuronal Pacemaker Cation Currents

AUTHOR(S): Fainzilber, Michael; Nakamura, Takemichi; Lodder,  
Johannes C.; Zlotkin, Eliahu; Kits, Karel S.;  
Burlingame, Alma L.

CORPORATE SOURCE: Department of Biological Chemistry, Weizmann Institute  
of Science, Rehovot, 76100, Israel

SOURCE: Biochemistry (1998), 37(6), 1470-1477

CODEN: BICHAW; ISSN: 0006-2960

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 30 Jan 1998

AB A novel  $\gamma$ -carboxyglutamate-containing peptide, designated  $\gamma$ -conotoxin-PnVIIA,  
is described from the venom of the molluscivorous snail *Conus pennaceus*.  
 $\gamma$ PnVIIA triggers depolarization and firing of action potential bursts in the  
caudodorsal neurons of *Lymnaea*. This effect is due to activation or  
enhancement of a slow inward cation current that may underly endogenous  
bursting activity of these neurons. The amino acid sequence of  $\gamma$ PnVIIA was  
determined as DCTSWFGRCTVNS $\gamma$ CCSN $\gamma$ CDQTYC $\gamma$ LYAFOS (where  $\gamma$  is  $\gamma$ -carboxyglutamate,  
O is trans-4-hydroxyproline), thus  $\gamma$ PnVIIA belongs to the six cysteine four  
loop structural family of conotoxins, and is most homologous to the previously  
described excitatory conotoxin-TxVIIA. Interestingly, TxVIIA did not induce  
action potentials in *Lymnaea* caudodorsal neurons.  $\gamma$ PnVIIA is the prototype of  
a new class of  $\gamma$ -conotoxins that will provide tools for the study of voltage-  
gated pacemaker channels, which underly bursting processes in excitable  
systems.

IT 201615-12-5,  $\gamma$ -Conotoxin Pn VIIA (reduced)

RL: ADV (Adverse effect, including toxicity); PRP (Properties); BIOL  
(Biological study)

( $\gamma$ -conotoxin-PnVIIA,  $\gamma$ -carboxyglutamate-containing  
peptide agonist of neuronal pacemaker cation currents)

RN 201615-12-5 CAPLUS

CN  $\gamma$ -Conotoxin Pn VIIA (reduced) (9CI) (CA INDEX NAME)

NTE modified (modifications unspecified)

SEQ 1 DCTSWFGRCT VNSXCCSN $\gamma$ CDQTYCXLYAF XS

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT





PATENT ASSIGNEE(S): John: Torres, Josep L  
 Salk Institute for Biological Studies, USA; University  
 of Utah Research Foundation  
 SOURCE: PCT Int. Appl., 55 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 7  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9501436	A1	19950112	WO 1994-US7194	19940627
W: AU, CA, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5432155	A	19950711	US 1993-84848	19930629
CA 2165566	A1	19950112	CA 1994-2165566	19940627
CA 2165566	C	20030624		
CA 2420184	A1	19950112	CA 1994-2420184	19940627
CA 2420184	C	20040921		
AU 9471158	A	19950124	AU 1994-71158	19940627
AU 678837	B2	19970612		
EP 706566	A1	19960417	EP 1994-920316	19940627
EP 706566	B1	20030827		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
EP 1336617	A2	20030820	EP 2003-75795	19940627
EP 1336617	A3	20031210		
EP 1336617	B1	20041229		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
AT 248222	T	20030915	AT 1994-920316	19940627
AT 286128	T	20050115	AT 2003-75795	19940627
US 5700778	A	19971223	US 1995-458499	19950602
AU 9735197	A	19971120	AU 1997-35197	19970821
AU 699078	B2	19981119		
US 39240	E1	20060815	US 1999-469496	19991222

PRIORITY APPLN. INFO.:  
 US 1993-84848 A 19930629  
 CA 1994-2165566 A3 19940627  
 EP 1994-920316 A3 19940627  
 WO 1994-US7194 W 19940627

OTHER SOURCE(S): CASREACT 123:50449; MARPAT 123:50449

ED Entered STN: 19 Apr 1995

AB Substantially pure conotoxins are provided which inhibit synaptic transmissions at the neuromuscular junctions and which are useful both in vivo and in assays because they specifically target particular receptors, such as the acetylcholine receptor, and ion channels. The peptides are of such length that they can be made by chemical synthesis. The peptides may be used to analyze acetylcholine receptors and in pharmaceuticals (no data). Thirteen different conotoxins containing 16-46 amino acids were prepared by solid phase peptide synthesis and tested for biol. activity.

IT 164578-74-9P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(conotoxins having acetylcholine receptor binding properties  
 and their use in receptors assays and pharmaceuticals)

RN 164578-74-9 CAPLUS

CN L-Phenylalaninamide, L-cysteinyl-L-lysyl-L-threonyl-L-tyrosyl-L-seryl-L-lysyl-L-tyrosyl-L-cysteinyl-4-carboxy-L- $\alpha$ -glutamyl-L-alanyl-L- $\alpha$ -aspartyl-L-seryl-4-carboxy-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-threonyl-4-carboxy-L- $\alpha$ -glutamyl-L-glutamyl-L-cysteinyl-

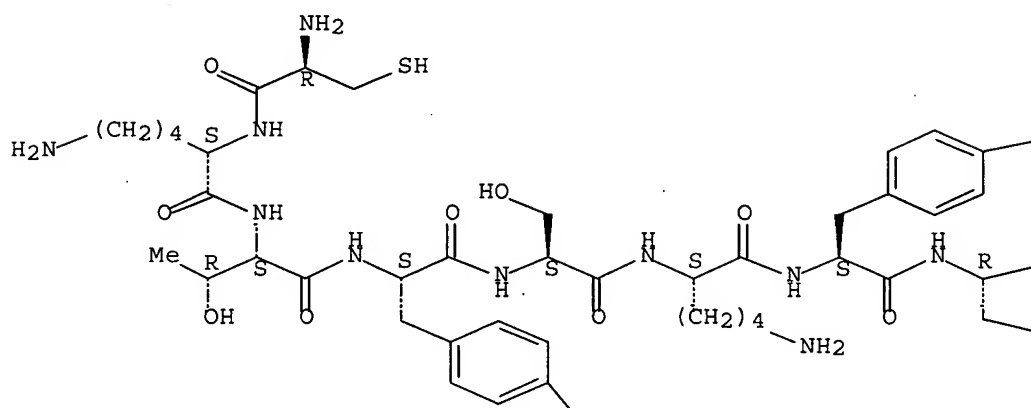
COPYRIGHT 2001, Valyl-L-arginyl-L-seryl-L-tyrosyl-L-cysteinyl-L-threonyl-L-leucyl-(9CI) (CA INDEX NAME)

NTE modified

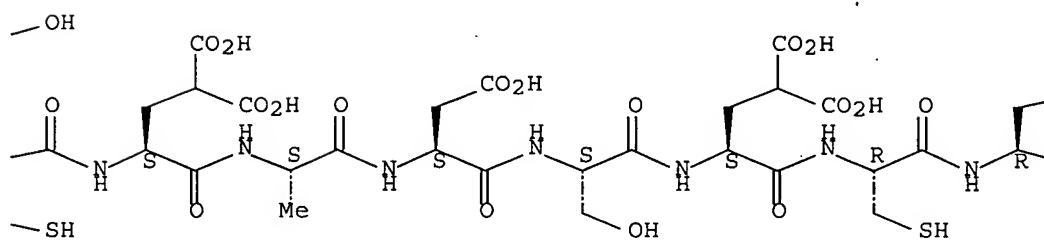
SEQ 1 CHTYSKYCKA DSXQCTXQGV RSYCTLF

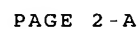
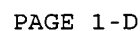
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



 $\diagup$ OH

152

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9410196	A1	19940511	WO 1993-US9069	19930928
W: AU, BR, CA, CZ, JP, KR, NO, NZ, PL, RU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2148504	A1	19940511	CA 1993-2148504	19930928
AU 9351642	A	19940524	AU 1993-51642	19930928
AU 668430	B2	19960502		
EP 668872	A1	19950830	EP 1993-922734	19930928
EP 668872	B1	19980513		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 07508758	T	19950928	JP 1993-511054	19930928
CZ 283548	B6	19980415	CZ 1995-1126	19930928
AT 166067	T	19980515	AT 1993-922734	19930928
RU 2120945	C1	19981027	RU 1995-109941	19930928
BR 9307363	A	19990511	BR 1993-7363	19930928
FI 9304847	A	19940504	FI 1993-4847	19931102
CN 1090289	A	19940803	CN 1993-119818	19931102
CN 1033330	B	19961120		
HU 66075	A2	19940928	HU 1993-3117	19931102
ZA 9308165	A	19950502	ZA 1993-8165	19931102
NO 9501691	A	19950502	NO 1995-1691	19950502
PRIORITY APPLN. INFO.:			US 1992-973323	A 19921103
			WO 1993-US9069	W 19930928

ED Entered STN: 12 Nov 1994

AB Polypeptides isolated from the venom of the Theraphosidae aphonopelma spider block calcium channels in cells of various organisms and are useful in blocking calcium channels in cells, per se, in the treatment of calcium channel-mediated diseases and conditions and in the control of invertebrate pests. The proteins were purified from venom obtained by elec.-stimulated milking by reverse-phase HPLC with calcium channel blocking determined using rat cerebellar granule cells.

IT 158253-91-9, Calcium channel blocking peptide 7-6.1 (Theraphosidae aphonopelma venom)

RL: BIOL (Biological study)

(amino acid sequence of and calcium channel blocking properties of)

RN 158253-91-9 CAPLUS

CN L-Phenylalanine, L-cysteinyl-L-alanyl-L- $\alpha$ -glutamyl-L-phenylalanyl-L-glutaminyl-L-seryl-L-lysyl-L-cysteinyl-L-lysyl-L-lysyl-L- $\alpha$ -aspartyl-L-seryl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinylglycyl-L-threonyl-L-leucyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-seryl-L-prolyl-L-threonyl-L-tryptophyl-L-lysyl-L-tryptophyl-L-cysteinyl-L-valyl-L-tyrosyl-L-prolyl-L-seryl-L-prolyl- (9CI) (CA INDEX NAME)

SEQ 1 CAEFQSKKK DSECTLEC SPTWKVCVYP SPF

L17 ANSWER 35 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:623342 CAPLUS Full-text

DOCUMENT NUMBER: 121:223342

TITLE: The complete DNA sequence of Autographa californica nuclear polyhedrosis virus

AUTHOR(S): Ayres, Martin D.; Howard, Stephen C.; Kuzio, John; López-Ferber, Miguel; Possee, Robert D.  
 CORPORATE SOURCE: Inst. Virol. Environ. Microbiol., NERC, Oxford, OX1 3SR, UK  
 SOURCE: Virology (1994), 202(2), 586-605  
 CODEN: VIRLAX; ISSN: 0042-6822  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 12 Nov 1994  
 AB The complete nucleotide sequence of the genome of clone 6 of the baculovirus Autographa californica nuclear polyhedrosis virus (AcNPV) was determined. The mol. comprises 133,894 base pairs and has an overall A + T content of 59%. Anal. suggests that the virus encodes some 154 methionine-initiated, and potentially expressed, open reading frames (ORFs) of  $\geq 150$  nucleotides. These ORFs are distributed evenly throughout the virus genome on either strand. The ORFs are arranged as adjacent, nonoverlapping reading frames separated by short intergenic regions. Based on the primary nucleotide sequence, predictions have been made concerning the functions of certain genes, the sites for initiation of viral DNA replication, the regulation of early and late gene transcription, and factors that may affect the AcNPV gene translational efficiency. The genome sequence data confirm, with minor differences, the information obtained for other AcNPV clones. It is proposed that clone C6 is considered the archetype AcNPV for comparison purposes.  
 IT 149255-25-4, Conotoxin (Autographa californica nuclear polyhedrosis virus clone C6 orf 3)  
 RL: PRP (Properties)  
 (amino acid sequence of)  
 RN 149255-25-4 CAPLUS  
 CN Protein (Autographa californica nucleopolyhedrovirus clone pBE42 gene ctl conotoxin-like precursor reduced) (9CI) (CA INDEX NAME)  
 SEQ 1 MQIKTVLLAF AMFAALNAQH VLAACAETGA VGVHNDEDCS GACSPIFNYC  
 51 LPQ

L17 ANSWER 36 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1993:487720 CAPLUS Full-text  
 DOCUMENT NUMBER: 119:87720  
 TITLE: Characterization of a baculovirus gene encoding a small conotoxinlike polypeptide  
 AUTHOR(S): Eldridge, Russ; Li, Yonghong; Miller, Lois K.  
 CORPORATE SOURCE: Dep. Entomol., Univ. Georgia, Athens, GA, 30602, USA  
 SOURCE: Journal of Virology (1992), 66(11), 6563-71  
 CODEN: JOVIAM; ISSN: 0022-538X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 04 Sep 1993  
 AB The authors identified a gene of Autographa californica nuclear polyhedrosis virus (AcMNPV) that encodes a small cysteine-rich polypeptide which has size and sequence similarity to omega-conotoxins, a class of calcium ion (Ca<sup>2+</sup>) channel inhibitors, found in the venom of cone snails. Transcriptional anal. indicated that the 159-bp open reading frame, named ctl, and a downstream 984-bp open reading frame are transcribed as a single 1.3-kb bicistronic late RNA. The mature ctl gene product was identified as a small secreted protein by high-pressure liquid chromatog. fractionation of extracellular fluid. Viruses with a site-specific deletion in ctl appeared normal with regard to the kinetics and virulence of infection, both in vitro and in vivo. Although the

authors studied the behavior of wild-type and mutant virus-infected insects in some detail, a biol. role for cti in AcMNPV infection remains to be established.

IT 145385-14-4 149255-25-4

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(amino acid sequence of, complete)

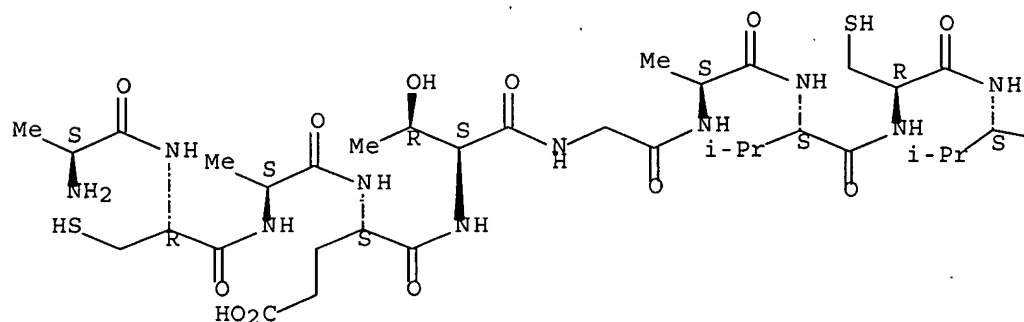
RN 145385-14-4 CAPLUS

CN L-Glutamine, L-alanyl-L-cysteinyl-L-alanyl-L- $\alpha$ -glutamyl-L-threonylglycyl-L-alanyl-L-valyl-L-cysteinyl-L-valyl-L-histidyl-L-asparaginyl-L- $\alpha$ -aspartyl-L- $\alpha$ -glutamyl-L-cysteinyl-L-cysteinyl-L-serylglycyl-L-alanyl-L-cysteinyl-L-seryl-L-prolyl-L-isoleucyl-L-phenylalanyl-L-asparaginyl-L-tyrosyl-L-cysteinyl-L-leucyl-L-prolyl- (9CI)  
(CA INDEX NAME)

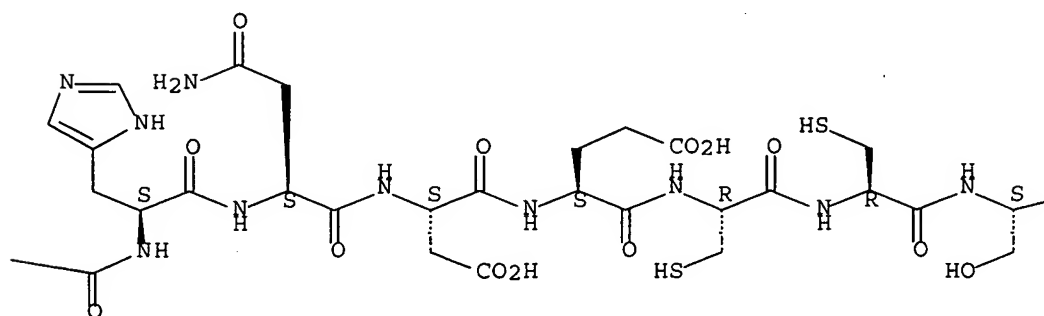
SEQ 1 ACAETGAVCV HNDECCSGAC SPIFN YCLPQ

Absolute stereochemistry.

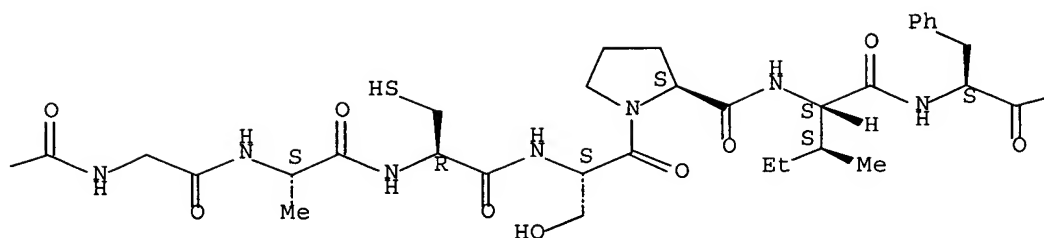
PAGE 1-A



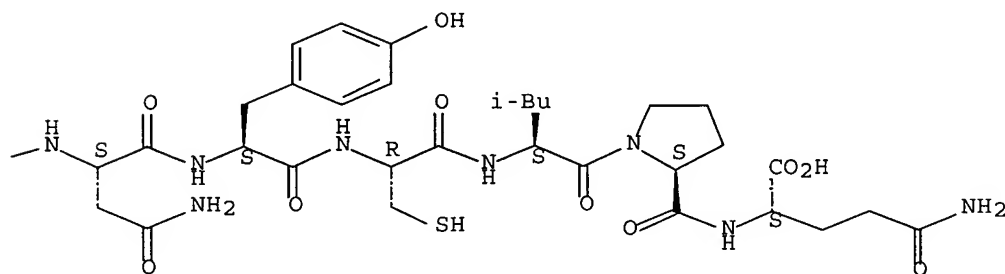
PAGE 1-B



PAGE 1-C



PAGE 1-D



RN 149255-25-4 CAPLUS

CN Protein (Autographa californica nucleopolyhedrovirus clone pBE42 gene c1  
conotoxin-like precursor reduced) (9CI) (CA INDEX NAME)SEQ 1 MQIKTVLLAF AMFAALNAQH VLAACAETGA VCVHNDECCS GACSPIFNYC  
51 LPQ

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(FILE 'HOME' ENTERED AT 13:14:39 ON 16 FEB 2007)

FILE 'CAPLUS' ENTERED AT 13:16:02 ON 16 FEB 2007

E US2003-647519/APPS

L1 1 SEA ABB=ON US2003-647519/AP  
D SCAN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:16:24 ON 16 FEB 2007

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228104-02-7/BI OR 228104-03-8/BI OR 228104-04-9/BI OR 228104-05  
-0/BI OR 228104-06-1/BI OR 228104-08-3/BI OR 228104-09-4/BI OR  
228104-10-7/BI OR 228104-11-8/BI OR 228104-13-0/BI OR 228104-14  
-1/BI OR 228104-16-3/BI OR 228111-13-5/BI OR 228111-22-6/BI OR  
228111-43-1/BI)  
D SCAN

FILE 'LREGISTRY' ENTERED AT 13:16:53 ON 16 FEB 2007

L3 0 SEA ABB=ON .{0,6}C.{5,6}C.{4}[EQ'GLA']CC.{3,4}C.{3,6}C.{0,9}/S  
QSP

FILE 'REGISTRY' ENTERED AT 13:18:45 ON 16 FEB 2007

L4 350 SEA ABB=ON .{0,6}C.{5,6}C.{4}[EQ'GLA']CC.{3,4}C.{3,6}C.{0,9}/S  
QSP  
SAVE TEMP L4 ROO519SEQ1/A  
L5 0 SEA ABB=ON ^C.{5,6}C.{4}[EQ'GLA']CCSDNC.{3,6}C.{0,9}/SQSP  
SAV TEMP L5 ROO519SEQ2/A  
L6 60 SEA ABB=ON ^.{0,6}C.{5,6}C.{4}[EQ'GLA']CC.{3,4}C.{3,6}C.{0,9}^  
/SQSP  
SAVE TEMP L6 ROO519SEQ3/A

FILE 'CAPLUS' ENTERED AT 13:21:23 ON 16 FEB 2007

L7 20 SEA ABB=ON L6

FILE 'REGISTRY' ENTERED AT 13:21:38 ON 16 FEB 2007

L8 ANALYZE L6 1- LC : 6 TERMS  
D

FILE 'REGISTRY' ENTERED AT 13:22:54 ON 16 FEB 2007

D QUE L6

D QUE L5

FILE 'CAPLUS' ENTERED AT 13:23:18 ON 16 FEB 2007

D QUE L1

L9 1 SEA ABB=ON L1 OR (L1 AND L6)  
D IBIB ED ABS HITSEQ

FILE 'REGISTRY' ENTERED AT 13:24:34 ON 16 FEB 2007

L10 10 SEA ABB=ON L4 AND L2

L11 0 SEA ABB=ON L6 AND L2  
D SQIDE L10

FILE 'CAPLUS' ENTERED AT 13:26:54 ON 16 FEB 2007

L12 1728 SEA ABB=ON CONOPEPTIDE#/OBI OR CONOTOXIN#/OBI OR CONUS/CW

L13 130 SEA ABB=ON L4

L14 33 SEA ABB=ON L12 AND L13  
 L15 16 SEA ABB=ON L12 AND L14

FILE 'STNGUIDE' ENTERED AT 13:28:29 ON 16 FEB 2007

FILE 'REGISTRY' ENTERED AT 13:29:15 ON 16 FEB 2007

D QUE L4  
 D QUE L5  
 D QUE L6

FILE 'CAPLUS' ENTERED AT 13:29:33 ON 16 FEB 2007

D QUE L1

L16 1 SEA ABB=ON L1 OR (L1 AND L4)  
 D IBIB ED ABS HITSEQ L16

FILE 'CAPLUS' ENTERED AT 13:30:22 ON 16 FEB 2007

D QUE L14  
 D QUE L7

L17 36 SEA ABB=ON (L7 OR L14) NOT L16  
 D IBIB ED ABS HITSEQ 1-36

FILE 'HOME' ENTERED AT 13:31:00 ON 16 FEB 2007

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